

5380



AD-A282 851



FINAL

**Community Environmental Response
Facilitation Act (CERFA) Report
Fort Wingate Depot Activity
Gallup, New Mexico**

Prepared for

**U. S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010**

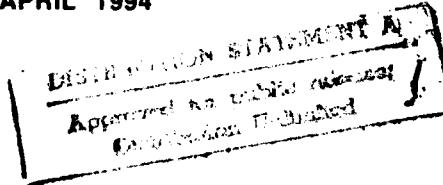
Prepared by

**ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
855 Springdale Drive
Exton, PA 19341**

Distribution limited to U. S. Government Agencies
only for protection of privileged information
evaluating another command.

Requests for this document must be referred to:
Commander, U. S. Army Environmental Center
Aberdeen Proving Ground, MD 21010

11 APRIL 1994



FINAL

**Community Environmental Response
Facilitation Act (CERFA) Report
Fort Wingate Depot Activity
Gallup, New Mexico**

Prepared for

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010**

Prepared by

**ENVIRONMENTAL RESOURCES MANAGEMENT, INC.
855 Springdale Drive
Exton, PA 19341**

Distribution limited to U. S. Government Agencies
only for protection of privileged information
evaluating another command.

Requests for this document must be referred to:
Commander, U. S. Army Environmental Center
Aberdeen Proving Ground, MD 21010

11 APRIL 1994

94 8 15 1 06

130 pg

94-25781



The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

The use of trade names in this report does not constitute an official endorsement or approval of the use of such commercial products. This report may not be cited for purposes of advertisement.

REPORT DOCUMENTATION PAGE

**Form Approved
OMB No. 0704-0188**

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE April 1994	3. REPORT TYPE AND DATES COVERED Final
4. TITLE AND SUBTITLE Community Environmental Response Facilitation Act (CERFA) Report, Fort Wingate Depot Activity, Gallup, New Mexico		5. FUNDING NUMBERS Contract No. DAAA15-91-D-0011; Delivery Order DA06	
6. AUTHOR(S) M.J. Stell, L.M. Ward			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) ERM, Inc. 855 Springdate Drive Exton, PA 19341		8. PERFORMING ORGANIZATION REPORT NUMBER N/A	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Environmental Center Aberdeen Proving Ground, MD 21010		10. SPONSORING/MONITORING AGENCY REPORT NUMBER SFIM-AEC-BC-CR-94041	
11. SUPPLEMENTARY NOTES Report is contained in one volume			
12a. DISTRIBUTION/AVAILABILITY STATEMENT Distribution Unlimited		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <p>This report presents the results of the Community Environmental Response Facilitation Act (CERFA) investigation conducted by Environmental Resources Management (ERM) at Fort Wingate Depot Activity (FWDA), a U.S. Government property selected for closure by the Base Realignment and Closure (BRAC) Commission under Public Laws 100-526 and 101-510. Under CERFA (Public Law 102-426), Federal agencies are required to identify expeditiously real property that can be immediately reused and redeveloped. Satisfying this objective requires the identification of real property where no hazardous substances or petroleum products, regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), were stored for one year or more, known to have been released, or disposed.</p> <p>FWDA is a 21,812 acre installation located in northwestern New Mexico, near the city of Gallup, New Mexico. Old Fort Wingate was established in 1850. During WWII, it was a storage point for overseas shipments and has been used predominantly for the storage of ammunition. It was also used to test Pershing missiles. The active mission of FWDA ceased in January 1993.</p> <p>ERM reviewed existing investigation documents; U.S. Environmental Protection Agency, State, and county regulatory records; environmental data bases; and title documents pertaining to FWDA during this investigation. In addition, ERM conducted interviews and visual inspections of FWDA as well as visual inspections of and data base searches for the surrounding properties.</p> <p>Information in this CERFA report was current as of January 1994. This information was used to divide the installation into three categories of parcels: CERFA Disqualified Parcels, CERFA Qualified Parcels and CERFA Parcels, as defined by the Army.</p> <p>The total BRAC property acreage at FWDA is 21,812 acres. Areas of the facility that have no history of CERCLA-regulated hazardous substance or petroleum product release, disposal, or storage for one year or more; and no history of other environmental hazards (such as asbestos, radon gas, lead-based paint, unexploded ordnance, radionuclides, or not in-use equipment containing polychlorinated biphenyls), are categorized as CERFA Parcels. A total of 23 CERFA Parcels were identified comprising approximately 16,339 acres.</p>			
14. SUBJECT TERMS Fort Wingate Depot Activity, CERFA, Base Closure, BRAC		15. NUMBER OF PAGES 78	16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT SAR

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1-1
1.1 PURPOSE AND SCOPE	1-1
1.2 DEFINITION OF TERMS	1-2
1.3 GEOGRAPHICAL/ENVIRONMENTAL SETTING	1-4
2.0 SCOPE OF INVESTIGATION	2-1
2.1 EXISTING INVESTIGATION DOCUMENTS	2-1
2.2 GOVERNMENT REGULATORY RECORDS	2-2
2.3 INTERVIEWS	2-3
2.4 VISUAL INSPECTIONS	2-3
2.5 TITLE DOCUMENTS	2-3
3.0 PROPERTY BACKGROUND INFORMATION	3-1
3.1 PROPERTY DESCRIPTION AND OPERATIONAL HISTORY	3-1
3.2 CHANGES TO REAL PROPERTY ENVIRONMENTAL CONDITIONS SINCE FINAL TECHNICAL PLAN DEVELOPMENT	3-3
4.0 INVESTIGATION RESULTS	4-1
4.1 PREVIOUSLY IDENTIFIED AREAS REQUIRING ENVIRONMENTAL EVALUATION (AREES)	4-1
4.2 ADDITIONAL AREAS IDENTIFIED	4-24
4.3 ADJACENT/SURROUNDING PROPERTIES	4-25
4.4 RELATED ENVIRONMENTAL, HAZARD, AND SAFETY ISSUES	4-26

4.5	CERFA EXCLUDED PROPERTY	4-29
5.0	SITE PARCELIZATION	5-1
5.1	CERFA CATEGORY AND DESIGNATION MAP	5-3
5.2	CERFA TRACT MAP	5-3
5.3	CERFA PARCEL DESIGNATORS	5-3

LIST OF FIGURES **FOLLOWING PAGE**

1.3-1	Location Map	1-4
--------------	---------------------	------------

LIST OF TABLES **FOLLOWING PAGE**

2.3-1	List of Interviewees for FWDA CERFA Assessment	2-3
4.4-1	Buildings with CERFA Qualifiers	4-1
5.1-1	CERFA Map Table	5-3

APPENDIX

ST #A, AUTH: USAEC/SFIM-AEC-RMI
 (MS. BARRY -DSN 584-1659)
 PER TELECON 14 JULY 94 CB

<i>pestlecon</i>		
Accession For		
NTIS GRA&I <input checked="" type="checkbox"/>		
DTIC TAB <input type="checkbox"/>		
Unannounced <input type="checkbox"/>		
Justification		
By Distribution		
Availability Codes		
Dist	Avail and	Special
A'		

ACRONYMS AND ABBREVIATIONS

ACM	Asbestos Containing Material
AEHA	Army Environmental Hygiene Agency
AREE	Area Requiring Environmental Evaluation
AST	Aboveground Storage Tank
bgs	Below Ground Surface
BMT	Ballistic Missile Testing
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
DNT	2,4-Dinitrotoluene
EI	Environmental Investigation
EPA	Environmental Protection Agency
ERM	Environmental Resources Management
ERNS	Emergency Response Notification System
FS	Feasibility Study
FTR	Functional Test Range
FWDA	Fort Wingate Depot Activity
FY	Fiscal Year
gpm	Gallons Per Minute
IRP	Installation Restoration Program
LBP	Lead-based Paint

M&E	Metcalf & Eddy
MSL	Mean Sea Level
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NM	New Mexico
NMED	New Mexico Environmental Department
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
OB/OD	Open Burning/Open Demolition
OBDA	Open Burning and Demolition Area
°F	Degrees Fahrenheit
PA	Preliminary Assessment
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PDO	Property Disposal Office
PM	Pershing Missile
POL	Petroleum, Oil, and Lubricant
ppb	Parts Per Billion
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act

SI	Site Inspection
STP	Sewage Treatment Plant
TEAD	Tooele Army Depot
TNT	2,4,6-Trinitrotoluene
USAEC	U.S. Army Environmental Center
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USDA	U.S. Department of Agriculture
UST	Underground Storage Tank
UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

This report presents the results of the Community Environmental Response Facilitation Act (CERFA) investigation conducted by Environmental Resources Management (ERM) at Fort Wingate Depot Activity (FWDA), a U.S. Government property selected for closure by the Base Realignment and Closure (BRAC) Commission under Public Laws 100-526 and 101-510. Under CERFA (Public Law 102-426), Federal agencies are required to identify expeditiously real property that can be immediately reused and redeveloped. Satisfying this objective requires the identification of real property where no hazardous substances or petroleum products, regulated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), were stored for one year or more, known to have been released, or disposed.

FWDA is a 21,812 acre installation located in northwestern New Mexico, near the city of Gallup, New Mexico. Old Fort Wingate was established in 1850. During WWII, it was a storage point for overseas shipments and has been used predominantly for the storage of ammunition. It was also used to test Pershing missiles. The active mission of FWDA ceased in January 1993.

ERM reviewed existing investigation documents; U.S. Environmental Protection Agency, State, and county regulatory records; environmental data bases; and title documents pertaining to FWDA during this investigation. In addition, ERM conducted interviews and visual inspections of FWDA as well as visual inspections of and data base searches for the surrounding properties.

Information in this CERFA report was current as of January 1994. This information was used to divide the installation into three categories of parcels: CERFA Disqualified Parcels, CERFA Qualified Parcels and CERFA Parcels, as defined by the Army.

The total BRAC property acreage at FWDA is 21,812 acres. Areas of the facility that have no history of CERCLA-regulated hazardous substance or petroleum product release, disposal, or storage for one year or more; and no history of other environmental hazards (such as asbestos, radon gas, lead-based paint, unexploded ordnance, radionuclides, or not in-use equipment containing polychlorinated biphenyls), are categorized as CERFA Parcels. A total of 23 CERFA Parcels were identified comprising approximately 16,339 acres.

Areas of the facility that had no evidence of CERCLA-regulated hazardous substance or petroleum product release, disposal, or storage for one year or more, but contained other environmental hazards (such as asbestos, radon gas, lead-based paint, unexploded ordnance, radionuclides, or not in-use equipment containing polychlorinated biphenyls) were categorized as CERFA Qualified Parcels . A total of 44 CERFA Qualified Parcels were identified comprising approximately 940 acres.

Areas of the facility, for which there is a history of release, disposal, or storage for one year or more of CERCLA-regulated hazardous substances or petroleum products or had a release of the other environmental hazards identified above were categorized as CERFA Disqualified Parcels. A total of 37 CERFA Disqualified Parcels were identified comprising approximately 4,533 acres.

Areas on the facility that will be retained by the Federal Government or that have already been transferred by deed are categorized as CERFA-Excluded Parcels. No CERFA-Excluded Parcels were identified.

The primary objective of CERFA is satisfied by the identification of CERFA Parcels and CERFA Qualified Parcels . As a result, concurrence has been sought from the regulatory agencies on these two categories of parcels. This CERFA Report has been reviewed by the U.S. Army Environmental Center (USAEC), Region VI, U.S. Environmental Protection Agency and the New Mexico Environmental Department. Comments received from regulatory agencies and USAEC's response to those comments are located in the Appendix.

This report contains maps that summarize the categorization of FWDA on the basis of the above definitions. This Executive Summary should be read only in conjunction with the complete CERFA Report for this installation. The CERFA Report provides the relevant environmental history to substantiate the parcel categorization. This report does not address other property transfer requirements that may be applicable under the National Environmental Policy Act (NEPA), nor does it address natural resource considerations such as the threat to plant or animal life.

1.0

INTRODUCTION

1.1

PURPOSE AND SCOPE

Public Laws 100-526 and 101-510 designated more than 100 Department of Army facilities for closure and realignment. As a result, it became necessary to expedite the environmental investigation and cleanup process, as necessary, prior to the release and reuse of Army Base Realignment and Closure (BRAC) property. The BRAC environmental restoration program was established in 1989 with the first round (BRAC 88) of base closures and continued with subsequent rounds (BRAC 91, BRAC 93, etc.). The BRAC program is patterned after the Army's Installation Restoration Program (IRP), except that it has been expanded to include such environmental concerns as asbestos, radon, polychlorinated biphenyls (PCBs), and others that are not normally addressed under the Army IRP.

In October 1992, Public Law 102-426, the Community Environmental Response Facilitation Act (CERFA) amended Section 120 (h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and established new requirements with respect to environmental assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property owned, to identify property where no hazardous substances were stored, released, or disposed of. Also, the designation must be concurred with by the appropriate regulatory agency (U.S. Environmental Protection Agency for National Priority List (NPL) bases and state for non-NPL bases). These requirements retroactively affect the Army BRAC 88 and BRAC 91 environmental restoration activities, and are being implemented at BRAC 93 sites. The primary CERFA objective is for federal agencies to expeditiously identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the Army transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

ERM was awarded the task to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed at twelve BRAC 88 sites. Under this task, an Execution Plan was developed to describe the process in satisfying the

CERFA task objective. The purpose of this report is to present the findings for Fort Wingate Depot Activity, Gallup, New Mexico.

1.2

DEFINITION OF TERMS

The following definitions are used in this report:

CERFA Parcel - A portion of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. CERFA parcels include areas where PCB containing equipment is in operation, but there is no evidence of release. CERFA parcels also include any portion of the installation which once contained related environmental, hazard, or safety issues including unexploded ordnance (UXO) located on firing ranges or impact areas, radon, stored (not-in-use) PCB containing equipment, asbestos contained within building materials, radionuclides contained within products being used for their intended purposes, and lead-based paint applied to building material surfaces, but which have since been fully remediated or removed.

CERFA Parcel Qualifiers(s) - A portion of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. Parcel does however contain related environmental, hazard, or safety issues including unexploded ordnance (UXO) located on firing ranges or impact areas, radon, radionuclides contained within products being used for their intended purposes, asbestos contained within building materials, lead-based paint applied to building material surfaces, or stored (not-in-use) PCB containing equipment.

CERFA Disqualified Parcel - A portion of the installation real property for which investigation reveals evidence of a release, disposal, or storage for more than one year of a CERCLA hazardous substance, petroleum, or petroleum derivative; or a portion of the installation threatened by such a release or disposal. CERFA Disqualified Parcels also include any portion of the installation where PCB, asbestos containing material, lead-based paint residue, radionuclides, or any ordnance has been disposed of, and any locations where chemical ordnance has been stored. Additionally, CERFA Disqualified Parcels include any areas in which CERCLA hazardous substances or petroleum products have been released or disposed of and subsequently fully remediated.

CERFA Excluded Parcel - A portion of the installation real property retained by the Department of Defense, and therefore, explicitly investigated for CERFA. CERFA Excluded Parcels also include any portions of the installation which have already been transferred by deed to a party outside the federal government, or by transfer assembly to another federal agency.

The following labels are used in conjunction with the identified parcels. Each parcel is given a unique number to which the appropriate labels are attached.

- P = CERFA Parcel
- Q = CERFA Qualified Parcel
- D = CERFA Disqualified Parcel
- E = CERFA Excluded Parcel

EXAMPLE: 4P indicates that the fourth parcel is in the CERFA Parcel category.

The presence of related environmental, hazard, and safety issues, responsible for placing a parcel in the CERFA Qualified Parcel category, is indicated by the following labels:

- A = Asbestos
- L = Lead-Based Paint
- P = PCB
- R = Radon
- X = Unexploded Ordnance (UXO)
- RD = Radionuclides

EXAMPLE: 5Q-L indicated that the fifth parcel is in the CERFA Qualified Parcel category because of the presence of lead-based paint.

The following designations are used to indicate the type of contamination or storage present in a parcel. Conditions responsible for placing a parcel in the CERFA Disqualified category are indicated by the following:

- PR = Petroleum Release
- PS = Petroleum Storage
- HR = Hazardous Release
- HS = Hazardous Storage

EXAMPLE: 12D-HR indicates that the twelfth parcel is in the CERFA Disqualified category because of evidence of hazardous release.

For all parcels, (P) [i.e., P with parentheses around it] is used to indicate that the presence of the contamination is possible, but that data is unavailable for verification.

EXAMPLE: 9Q-A(P) indicates that the ninth parcel is in the CERFA Qualified Parcel category because of the possible presence (unverified) of ACM.

OTHER EXAMPLES:

Parcel label 15D-HR/PS/A(P) indicates that the 15th parcel is in the CERFA Disqualified category based on evidence of a hazardous substance release and petroleum storage. It also contains possible ACM.

Parcel label 8Q-X/R indicates that the eighth parcel is in the CERFA Qualified Parcel category because of the presence of unexploded ordnance and radon.

1.3

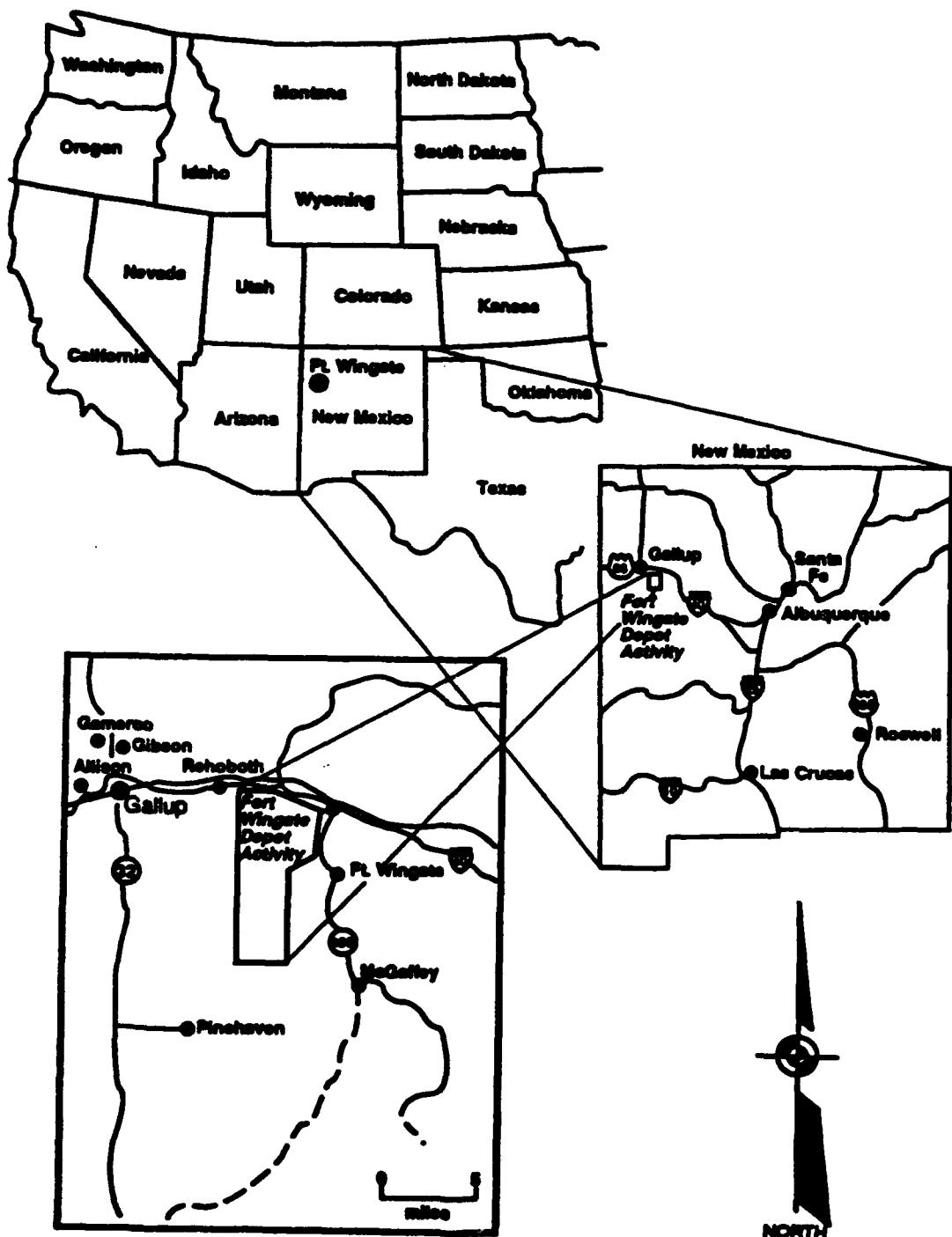
GEOGRAPHICAL/ENVIRONMENTAL SETTING

Fort Wingate Depot Activity (FWDA) occupies 21,812 acres of land in northwestern New Mexico (NM), in McKinley County (see Figure 1.3-1). It is located eight miles east of Gallup, NM and about 130 miles west of Albuquerque, NM, along Interstate 40. FWDA has been a government-owned and operated facility under the command of the U.S. Army. It served as a munitions storage and reserve status material and demilitarization facility. Currently, operations at the facility have ceased as a result of closure.

Topographically, FWDA may be divided into three areas: (1) the rugged north-to-south trending Hogback along the western and the southwestern boundaries; (2) the northern hill slopes of the Zuni Mountain Range in the southern portion; and (3) the alluvial plains marked by bedrock remnants in the northern portion of the installation. Streams unload their sediment in the low-lying areas in the northern part of the installation, creating an extensive alluvial deposit among remnants of bedrock. The streams eventually end in the South Fork of the Puerco River near the northern boundary of FWDA.

The altitude of FWDA ranges from approximately 8,200 feet above mean sea level (MSL) in the south to 6,600 feet above MSL in the north. Main drainages, following the topography, flow from south to north and empty into the South Fork of the Puerco River. Many tributaries, however, follow the regional trend, flowing from southwest to northeast. Because of the nature of precipitation in this arid region, the surface drainage is

Figure 1.3-1
Location of Fort Wingate Depot Activity
Gallup, New Mexico



Source: "Final Technical Plan for the Environmental Investigation at Fort Wingate Depot Activity," Metcalf and Eddy, Inc., November 6, 1992

relatively shallow near headwaters. Downward erosion intensifies as streams move downstream, resulting in a system of well-developed arroyos. Arroyos form because of the erodibility of localized areas of silty and clay-rich bedrock.

FWDA lies between the South Fork of the Puerco River and the northern foothills of the Zuni Mountain Range. All drainages in this area are intermittent. Flows in the drainages occur only during and after heavy rainfall events or during snowmelt. Drainages are fed by washes in the Zuni Mountain Range and the Hogback. The drainages generally flow toward the north until the South Fork of the Puerco River is encountered, except in the southwestern corner of the installation where drainage is toward the west.

The majority of FWDA is underlain by the Chinle Formation (Triassic age) and dissected by arroyos. The Chinle Formation consists primarily of calcareous mudstone, with minor amounts of fine-grained calcareous sandstone. The sandstone is relatively weather-resistant and forms the cap rock of the remnant bedrock exposures in the northern portion of FWDA. The softer mudstone is easily eroded to form badlands or arroyos on hillslopes and in eroded valleys.

Alluvial deposits are best developed in the northern part of FWDA, in lowland areas situated between bedrock remnants. Alluvial deposits have also developed along streams draining the Hogback and Zuni Mountains which flow through the northern part of the installation before joining the South Fork of the Puerco River. Because the alluvium was generally deposited by braided streams, the texture and internal structure are characterized by lateral and vertical variability. The grain size of the alluvium ranges from clay to gravel, typical of braided stream deposits.

Ground water is present at great depth in most of the rock units underlying FWDA. Examination of these rocks and of records of wells in the area indicates that the only formations at FWDA capable of yielding more than a few gallons per minute (gpm) in a well are the Quatowam Alluvium (Quaternary age), the San Andres Limestone and Glorieta Sandstone (Permian age). However, minor amounts of ground water are present within the Chinle Formation (Triassic age) and underlying rock units. Water-bearing formations of Jurassic and Cretaceous ages, capable of yielding 100 or more gpm, are present 4 to 6 miles west of FWDA, but not within facility boundaries.

The San Andres-Glorieta aquifer, which constitutes the primary ground water source for FWDA, outcrops near the facility's southern boundary and dips to the north. In the northern portion of the facility, this aquifer is at a depth of approximately 1,100 feet below ground surface. The

recharge zone is located east of a fault in the southeastern part of FWDA. Snowmelt and precipitation furnish much of the recharge water to the aquifer. According to records from the U.S. Weather Bureau, slightly more than 3 inches of water is received annually in the area as snow. It is assumed that 1 inch per year of precipitation infiltrates the San Andres-Glorieta aquifer at FWDA, and that about 2,300 acre-feet per year is obtained for annual recharge. Ground water flow in the San Andres-Glorieta aquifer is in a northwesterly direction.

2.0

SCOPE OF INVESTIGATION

The scope of the CERFA investigation includes:

- Review of previous environmental investigations, assessments, reports, etc.
- Review of applicable government regulatory records: federal, state, and local (where applicable and available).
- Interviews with representatives from the installation (or command responsible for the installation), other federal agencies, regulatory officials, and others.
- Review of maps, aerial photographs (where available), and conduct of aerial overflight.
- Detailed site inspection (the scope of these site inspections was determined principally by the review of previous investigations and assessments).

These seven activities are specifically included within the statutory scope of CERFA. All seven activities were conducted during the CERFA investigation at FWDA.

2.1

EXISTING INVESTIGATION DOCUMENTS

Extensive documentation on environmental conditions at FWDA has been compiled within the past decade. Documents describing the environmental conditions or the results of previous or current investigations at locations either within or adjacent to FWDA were used as primary sources throughout the CERFA investigation. These sources are listed below.

1. *Environmental Survey of FWDA, Gallup, New Mexico 87301, Final Report*, Environmental Science and Engineering (ESE), 19 September 1981.
2. *Geohydrologic Study No. 38-36-8916-90, Fort Wingate Depot Activity, Gallup, New Mexico*, U.S. Army Environmental Hygiene Agency (AEHA), 16-20 April 1990.
3. *RCRA Facility Assessment Report, Fort Wingate Depot Activity, NM6213820974, Gallup, New Mexico*, PRC Environmental Management, Inc., 26 September 1990.
4. *Master Environmental Plan, Fort Wingate Depot Activity, Gallup, New Mexico*, Argonne National Laboratory (ANL), December 1990.

5. *Final Technical Plan for the Environmental Investigation (EI) at Fort Wingate Depot Activity (FWDA), Gallup, New Mexico, Metcalf and Eddy, Inc. (M&E) 6 November 1992.*
6. *Property Transfer Investigation of the Southern Property, Igloo Blocks A, B, and C, and the three (3) Former Ballistic Missile Laurel Sites, Fort Wingate Depot Activity, Gallup, New Mexico, Environmental Resources Management, Inc., July 1993.*

Reference 5, entitled "Final Technical Plan for the Environmental Investigation (EI) at Fort Wingate Depot Activity (FWDA), Gallup, New Mexico", (Final Technical Plan), is an updated compilation of the essential facts contained in the other investigative documents. Therefore, it is the primary reference cited throughout the report.

A primary source of information used in preparation of this report was a Remedial Investigation/Feasibility Study (RI/FS) conducted by ERM. The Draft Final RI/FS report was made available for regulatory review on 28 January 1994.

2.2

GOVERNMENT REGULATORY RECORDS

Federal Records

A file review was conducted at EPA Region VI office in Dallas, Texas on October 1, 1993. No information was found regarding FWDA [during the entire conduct of the RI/FS, ERM continually coordinated with EPA, Region VI; including extensive document reviews] not previously identified in existing documents and/or the RI/FS.

A search of the EPA's Emergency Response Notification System (ERNS) database during the period 30 January - 2 February 1994 identified no report of release of oil or hazardous substances at FWDA since the inception of the database in 1986.

State Records

Concurrent with the ongoing RI/FS, a focused record review of environmental regulatory records maintained by the New Mexico Environmental Department (NMED) was conducted. A "separate" CERFA review of NMED documents was conducted in October 1993 [again, as with EPA, ERM has conducted extensive reviews of state reports on FWDA during the course of the RI/FS]. These reviews uncovered no information regarding environmental areas of concern not previously identified in existing documents and/or the RI/FS.

NRC Records

There is no record of a Nuclear Regulatory Commission (NRC) license issued for operations at FWDA.

AEHA Records

A record search conducted by the Army Environmental Hygiene Agency (AEHA) did not reveal any information of concern to the CERFA investigation.

2.3 INTERVIEWS

Table 2.3-1 provides a summary for those individuals interviewed during the CERFA investigation.

In light of the ongoing RI/FS, ERM did not conduct a separate CERFA site visit. Interviews in furtherance of the RI/FS have been ongoing and were utilized in preparation of the CERFA Report. CERFA-specific information was obtained from Mr. Michael Gaborek, U. S. Army Environmental Center (USAEC), CERFA Project Officer for FWDA.

2.4 VISUAL INSPECTIONS

As previously noted, due to the ongoing RI/FS, no specific CERFA site visit was conducted. Extensive visual inspections of the installation were conducted during the RI/FS.

An aerial survey was conducted on October 1, 1993 by ERM and UXB International, Inc. (ERM's ordnance detection/clearance subcontractor). During the flyover, areas of possible environmental concern were identified that had not been previously observed. Follow-up investigation of these areas (e.g., unvegetated areas, barrow pits) indicated that they were of no environmental concern.

2.5 TITLE DOCUMENTS

ERM conducted a review of tract maps and transfer documents to identify the prior property owners of the BRAC portion of FWDA at the time of its transfer to the Army. The purpose of this review was to collect additional information concerning the property's prior use and environmental condition at the time of its transfer to the Army. Based on this review, no

Table 2.3-1
List of Interviewees for FWDA CERFA Assessment

Interviewee No.	Date	Name	Telephone	Organization/Position	Length of Service
I-1	9/93 to 2/94	Michael Gaborek	(410) 671-1614	U.S. Army Environmental Center, FWDA CERFA Project Manager	
I-2	2/94 to 4/94	William Nelson	(410) 671-1614	U.S. Army Environmental Center, FWDA CERFA Project Manager	
I-3	10/92 to Present	Larry Fisher	(801) 833-3504	BRAC Environmental Coordinator for FWDA, Tooele Army Depot	2 Years
I-4	10/92 to Present	Joe Caldwell	(801) 833-3040	Base Closure Division Tooele Army Depot	
I-5	10/92 to Present	John Pfeil	(505) 827-2776	Groundwater Protection and Remediation Bureau, New Mexico Environment Department	2 Years
I-6	10/92 to Present	Marc Sides	(505) 827-4358	Hazardous and Radioactive Materials Bureau, New Mexico Environmental Department	
I-7	10/92 to Present	David Gregory	(505) 766-1773	U.S. Army Corps of Engineers, Albuquerque, New Mexico	
I-8	10/92 to Present	Duke Davis	(505) 488-5411	Supervisor, Caretaker Force, FWDA	5 Years
I-9	10/1/93	Jerva Durhan	(214) 655-6444	Federal Records Section, EPA Region VI Dallas, Texas	

additional information was collected. Previous ownership and the dates of transfer to the Army are indicated on Figure 5.2-1.

3.0

PROPERTY BACKGROUND INFORMATION

This Section provides a description of the BRAC property, a discussion of its operational history (see Section 3.1), and a description of any changes to environmental conditions since the most recent environmental investigation (see Section 3.2).

3.1

PROPERTY DESCRIPTION AND OPERATIONAL HISTORY

FWDA, located near Gallup, New Mexico, is an inactive U.S. Army depot whose former mission was to store, ship, and receive material and to dispose of obsolete or deteriorated explosives and ammunition. The active mission of FWDA ceased in January 1993 and FWDA has been targeted for closure by September 1995. The installation is currently under the administration command of the Tooele Army Depot (TEAD), located near Salt Lake City, Utah.

Old Fort Wingate was established in 1850 and was larger than the existing installation. Three locations in New Mexico eventually hosted the Fort, and seven names have been used to designate it. The first post was east of the current FWDA site. It was named Fort Fauntleroy, and later (1861), Fort Lyon.

Early in 1941, an extensive rebuilding and reconstruction program started at the site of the present FWDA to meet the needs of shipping foreign aid and supplying armies overseas. At the end of 1941, the administrative buildings and igloo-shaped structures for storing ammunition were installed. In 1962, Fort Wingate became part of the new U.S. Army Supply and Maintenance Command, and in the same year, the Army designated the facility Fort Wingate Army Depot. Between 1963 and 1967, the installation was used by White Sands Missile Range to test the mobility and accuracy of the Pershing missile. Several missiles were fired from the installation. In 1966, the installation shipped ammunition for the South Vietnam conflict. In July 1971, the installation was placed in Reserve Status under the command of Pueblo Army Depot (Colorado) and redesignated Fort Wingate Depot Activity. The U.S. Army Material Command (in General Order No. 151, date 18 September 1975), reassigned FWDA to Tooele Army Depot, Utah.

Large areas within FWDA are relatively undisturbed by military activities. These areas include the southern 7,000 acres, excluding three missile launch sites, and the western margin of the facility which includes the Hogback.

FWDA is dotted with ruins of prehistoric and historic inhabitation by Native Americans. The site and land in the vicinity have been inhabited for centuries by farming and hunting Native American tribes, primarily the Pueblo. Ruins of the Anasazi civilization are found on FWDA.

FWDA's 21,812 acres have been used for administration facilities (800 acres), workshop activities, igloos and magazines (8,110 acres), demolition and burning of explosives (1,100 acres), and other activities. The open spaces can be characterized as woodland and recreational land (6,200 acres), and protection and security buffer zone land (5,602 acres).

Transportation facilities for FWDA are as follows. The main entrance road of FWDA connects with U.S. Route 66, approximately 8 miles east of Gallup. The installation itself contains about 150 miles of road (70 miles surfaced, the remainder dirt and gravel). There is no bus service between Gallup and FWDA. The Atchison, Topeka and Santa Fe Railroad serves the major rail needs of the installation, and within the facility are approximately 20 miles of track (primarily to the ammunition Magazine/Igloo areas).

The three primary functions within FWDA's assigned mission were to provide facilities for the storage of material, specifically, ammunition components (explosive and inert); to handle the shipping and receiving of material, mainly by railroad or vehicular transport; and to demilitarize and dispose of obsolete and/or deteriorated explosives and munitions, thereby rendering them harmless. FWDA's mission dictated several activities that had a potential environmental impact. These activities were:

- Arc and acetylene welding
- Automotive Repair
- Battery Charging
- Metal Parts Cleaning
- Printing and Stripping
- Woodworking
- Machining and Blacksmithing
- Steam Cleaning
- Power Production (Boilers)
- Fire fighting
- Munition Washout
- Pesticide Storage and Use

Many of the wastes and hazardous materials handled at FWDA resulted from installation operations such as cleaning and maintenance of vehicles, equipment, buildings, and grounds; and demilitarization of munitions. These wastes included various spent cleaning solvents, waste oils, fuel, waste tires, corrosion removers, waste paint, caustics, corrosives, and various explosive and propellant residues. FWDA waste management practices included recycling of solvents and batteries in accordance with the Base Waste Management Plan. These activities were primarily restricted to the maintenance building and the open burning/open demolition (OB/OD) grounds.

Several other wastes and hazardous materials were generated or present in limited quantities on the installation. These include: PCBs associated with electrical transformers; sludge from water and wastewater treatment processes; pesticides and herbicides; and unexploded ordnance (UXO).

Solid waste and demolition landfills are located at the installation.

The OB/OD operations at FWDA were carried out under a RCRA Part B, Subpart X, Interim Status Permit granted by EPA, Region VI. The conditions of the permit application provide for the testing of residues from the OB/OD operations to determine whether or not they are hazardous wastes. If the residues were determined to be hazardous wastes, they were disposed of in a hazardous waste disposal facility regulated by RCRA.

3.2 CHANGES TO REAL PROPERTY ENVIRONMENTAL CONDITIONS SINCE FINAL TECHNICAL PLAN DEVELOPMENT

There have been no noticeable changes to real property environmental conditions since the writing of the Final Technical Plan (M&E, 1992) and the conduct of the RI/FS.

4.0

INVESTIGATION RESULTS

This Section describes the results of the CERFA investigation by identifying areas of environmental concern, both of those previously identified in prior investigations and those uncovered as a result of the CERFA site visit. In addition, Section 4 identifies parcels in accordance with the parcel definitions contained in Section 1.2.

4.1

PREVIOUSLY IDENTIFIED AREAS REQUIRING ENVIRONMENTAL EVALUATION (AREES)

An RI/FS was recently conducted at FWDA by ERM (see Section 2.3). Because of this on-going activity, no separate CERFA site visit was performed as part of the CERFA investigation, thus, there is no distinction between Previously Identified Areas Requiring Environmental Evaluation (Section 4.1) and additional areas identified (Section 4.2). They are all discussed in Section 4.1.

Lead-Based Paint (LBP)

Sampling has confirmed the presence of LBP in representative buildings at FWDA. Furthermore, all buildings constructed prior to 1978 (which includes all buildings on FWDA, including igloos) are presumed to contain LBP.

Table 4.4-1 includes LBP identification by building number.

All parcels containing buildings verified to contain LBP will include an "L" in the parcel label. All parcels containing buildings not tested for LBP (but, however, presumed to contain LBP) will include an "L(P)" in the parcel label.

Asbestos Containing Materials (ACM)

ACM surveys have been conducted at FWDA. Additionally, all buildings constructed prior to 1985 are presumed to contain ACM.

Table 4.4-1 includes ACM identification by building number.

All parcels containing buildings verified to contain ACM will include an "A" in the parcel label. All parcels containing buildings not tested for ACM (but, however, presumed to contain ACM) will include an "A(P)" in the parcel label.

Table 4.4-1
Buildings with CERFA Qualifiers
Fort Wingate Depot Activity
Gallup, New Mexico

Building Number	Qualifiers	
1	A	L(P)
2	A	L(P)
3	A	L(P)
4	A	L(P)
5	A	L(P)
6	A(P)	L
7	A(P)	L(P)
8	A	L(P)
9	A	L(P)
10	A(P)	L(P)
11	A	L(P)
12	A	L(P)
13	A	L(P)
14	A	L
15	A	L
16	A	L
17	A	L
18	A	L(P)
20		L(P)
21	A(P)	L(P)
22	A(P)	L(P)
23	A(P)	L(P)
25		L(P)
27	A	L(P)
28	A	L(P)
29	A	L
30	A	L(P)
31	A	L
32		L(P)
33	A	L
34	A(P)	L(P)
35	A(P)	L(P)
36	A	L(P)
37	A(P)	
40		L(P)
41	A	L(P)
42		L(P)
43	A(P)	L(P)
44	A	L(P)

Table 4.4-1
Buildings with CERFA Qualifiers
Fort Wingate Depot Activity
Gallup, New Mexico

Building Number	CERFA Qualifier	Comments
45	A(P)	L(P)
46		L(P)
48		L(P)
51	A	L(P)
52	A(P)	L(P)
53		L(P)
54		L
60		L(P)
61	A(P)	L(P)
67		L(P)
70		L(P)
79		L(P)
80		L(P)
81		L(P)
86	A(P)	L(P)
87	A(P)	L(P)
103	A(P)	L(P)
106		L(P)
107		L(P)
110	A(P)	L(P)
116	A(P)	L(P)
216		L(P)
217		L(P)
301	A	L(P)
302	A	L(P)
303	A	L(P)
304	A	L(P)
305	A	L(P)
306	A	L(P)
307	A	L(P)
308	A	L(P)
309	A	L(P)
310	A	L(P)
311	A	L(P)
312	A(P)	L(P)
316	A(P)	L(P)
320		L(P)
340	A(P)	L(P)
352	A(P)	L(P)

Table 4.4-1
Buildings with CERFA Qualifiers
Fort Wingate Depot Activity
Gallup, New Mexico

Building Number	Qualifiers
401	A(P) L(P)
406	A(P) L(P)
407	A(P) L(P)
409	A(P) L(P)
410	A(P) L(P)
411	A(P) L(P)
412	A(P) L(P)
413	A(P) L(P)
414	A(P) L(P)
415	A(P) L(P)
501	A L(P)
503	A L
505	L
509	A(P) L(P)
510	A(P) L(P)
511	A(P) L(P)
514	A(P)
515	A
519	L(P)
520	L(P)
522	A L(P)
527	A L(P)
528	A L(P)
529	A(P) L(P)
530	L(P)
535	A(P) L(P)
536	A L(P)
537	A L(P)
539	A L(P)
541	A L(P)
542	A L(P)
550	A(P) L(P)
551	L(P)
560	L(P)
601	A(P) L(P)

- A** Asbestos-containing material
- A(P)** Asbestos-containing material (probable)
- L** Lead-based paint
- L(P)** Lead-based paint (probable)
- P(P)** PCB Storage (probable)

Igloo Blocks A through H, J, and K

The Magazine/Igloo Area covers approximately 7,400 acres in the central part of the facility. There are 10 Igloo Blocks with a total of 784 igloo-type magazines. Propellants and explosives were stored in wooden ammunition boxes containing multiple metal containers. A minimum of three protective layers were used for storing munition components, and extreme caution was used during handling and storage. There are no records available indicating or suggesting storage of chemical agents, biological agents, or radiological materials. Large numbers of napalm bombs were stored at FWDA during the Southeast Asian conflict; however, records on the location of storage areas were not located. Forty years of munitions storage provided the potential for explosive residue [e.g., 2,4,6-Trinitrotoluene (TNT) and 2,4-dinitrotoluene (DNT)] from stored explosives to accumulate in the interiors of the igloos and around floor drains. However, if present, the concentration of these compounds is expected to be low.

Interior surface wipe and exterior soil sampling was conducted at eight percent of the igloos in each block as part of the ongoing RI/FS. The results discussed below are based on the analytical results obtained for the representative igloos sampled.

1. Igloo Block A [Parcel 1D-HR/L(P)]

Munitions were stored within Igloo Block A for 40 years. It is presumed that explosive residues (TNT and DNT) from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

2. Igloo Block B [Parcel 2D-HR/L(P)]

Munitions were stored within Igloo Block B for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on

28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

3. Igloo Block C [Parcel 3D-HR/L(P)]

Munitions were stored within Igloo Block C for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

4. Igloo Block D [Parcel 4D-HR/L(P)]

Munitions were stored within Igloo Block D for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

5. Igloo Block E [Parcel 5D-HR/L(P)]

Munitions were stored within Igloo Block E for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

6. Igloo Block F [Parcel 6D-HR/L(P)]

Munitions were stored within Igloo Block F for 40 years. It is presumed that explosive residue from the stored explosives may be present on the

interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

7. *Igloo Block G [Parcel 7D-HR/L(P)]*

Munitions were stored within Igloo Block G for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

8. *Igloo Block H [Parcel 8D-HR(P)/L(P)]*

Munitions were stored within Igloo Block H for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No explosive compounds were detected on the interior surfaces or in soils adjacent to selected igloos; however due to the nature of the operations conducted in this Igloo Block, a hazardous release was possible and therefore the parcel received an HR(P) designation.

9. *Igloo Block J [Parcel 9D-HR/L(P)]*

Munitions were stored within Igloo Block J for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

10. Igloo Block K [Parcel 10D-HR/L(P)/X]

Munitions were stored within Igloo Block K for 40 years. It is presumed that explosive residue from the stored explosives may be present on the interior of the storage igloos. Explosive residues may also be present on the exterior of the igloos, caused by spillage or drainage from igloo interiors.

Interior wipe and exterior soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds on the interior surfaces and in soils adjacent to selected igloos.

Functional Test Range 2/3

Functional Test Ranges (FTRs) on FWDA were used to test fire a variety of munitions, rockets, and mortars. A portion of Functional Test Range (FTR) 2/3 overlaps the eastern portion of Igloo Block K. Soil sampling and surface screening for the presence of unexploded ordnance (UXO) was conducted in FTR 2/3 as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of UXO scattered throughout this area.

11. Suspected POL Area [Parcel 11D-PR]

The Suspected POL (petroleum, oils and lubricants) Area is located west of the Administration Area, north of the North Patrol Road, at the northern edge of the FWDA property, between the main rail line entering FWDA from the north and a small rail line spur. There is a large pile of soil approximately 25 feet high, 250 feet long, and 50 feet wide between the main and spur rail lines. POL wastes are suspected of being disposed of in the area of the soil pile and surrounding the end of the rail line spur.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of volatile organic compound (VOCs) in soils.

**12. Old Trash Burning Ground/Property Disposal Office Area
[Parcel 12D- HR]**

The Old Trash Burning Ground is located in the northwestern portion of FWDA west of the Administration Area, approximately 2,000 feet west of the Sewage Treatment Plant (STP). The area is approximately 100 feet long, 10 feet wide, and consists of a mound of blackened soil and debris. The Property Disposal Office (PDO) Area is located approximately 100 feet east of the Old Trash Burning Ground. The PDO site consists of a slightly raised area approximately 20 feet by 10 feet in size which contains some concrete rubble.

These sites were apparently used to dispose and burn unknown materials. Numerous hazardous materials such as paints, solvents, and pesticides were used on the facility. It is considered probable that these materials were disposed at the site.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of semivolatile organic compounds (SVOCs), pesticides, and elevated concentrations of metals in soils.

13. Sewage Treatment Plant and Document Incinerator [Parcel 13D-HR/A(P)/L(P)]

Sewage Treatment Plant

The STP covers an area of approximately 5 acres and is located west of the Administration Area, near the northern boundary of the installation. The STP consists of a bar screen, lift station, Imhoff tank, sludge beds, three stabilization ponds in series, and an unlined evaporation-infiltration lagoon. The STP is encircled by an eight-foot-high chain link fence. Outside the fence to the west is a second unlined evaporation-infiltration lagoon. According to FWDA staff, this second lagoon was never used.

Evaporation-infiltration rates generally equaled or exceeded flow into the system. However, during periods of low evaporation, heavy rainstorms, or snowmelt, overflow from the system may have entered an open drainage ditch located north of the installation, which flows into the South Fork of the Puerco River. A National Pollution Discharge and Elimination System (NPDES) permit has not been required for the STP discharge. Only between 1975 and 1977 were inflow rates significant enough to require discharge approval.

In 1980, a ground water monitoring well was installed downgradient (north) from the STP to intercept any existing perched shallow ground water. All subsurface materials encountered during drilling appeared to be dry. Less than 1 foot of water was present in the well during the ground water sampling event in 1981, and water quality samples were not collected. During an inspection in 1990, a pink solution was observed in the STP effluent. Facility personnel had not seen this discoloration before. It was unknown whether the pink solution was caused by the effluent containing explosive compounds (e.g., TNT and DNT) or as a result of a reaction between the effluent and the soil.

The STP received effluent from buildings on the facility. Hazardous materials were stored or used in many of the buildings and may have entered the sewer system. Because of this, it is presumed that hazardous materials may be present at the STP. Also, this site was identified as an AREE in the Final Technical Plan prepared by Metcalf & Eddy (M&E, 1992).

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of VOCs and elevated concentrations of metals in soils and surface water.

Documentation Incinerator

A brick incinerator approximately 10 feet by 5 feet is located in the southeastern corner of the STP. It is believed to have been used primarily to burn classified documents. As part of the on-going RI/FS, a site inspection revealed the presence of numerous munitions adjacent to the incinerator. Because of the munitions present, it is assumed that the incinerator was used to dispose of munitions and may have hazardous materials, such as explosives, associated with it. Soil sampling was conducted as part of the RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

Building 22

See Table 4.4-1.

14. Former Storage Areas [Parcel 14D-HS/HR/PS/PR/L(P)]

Former Storage Yard

The Former Storage Yard is located in the northwestern corner of the Administration Area. It covers an area of approximately 700 feet by 400

feet and was used after 1970 to store items being transferred to the Defense Reutilization and Marketing Office (DRMO) at Kirkland Air Force Base, or awaiting pickup by a recycling contractor. Items stored in this area included waste oil, waste antifreeze, and spent solvent stored in 55-gallon drums. Metal parts, battery electrolyte containers, and full batteries were also stored there. On October 2, 1989, the New Mexico Health Department issued a Notice of Violation (NM621382974) following an inspection during which surficial staining of a limited area was observed around 5 of the 72 drums awaiting pickup by DRMO. Twelve of the 72 drums were empty and an additional 12 were later classified as "non-hazardous" following a waste characterization. All identified drums were subsequently shipped to an approved disposal facility. The stained area was reportedly 150 feet by 90 feet in size and located in the southwest section of the Former Storage Yard. It was reported that visibly stained material was removed and replaced with clean fill.

The state of New Mexico conducted a site inspection of the Former Storage Yard on March 6, 1991 (Mr. Coby Muckelroy, New Mexico Environmental Improvement Division). The inspection report noted that the drum storage yard was no longer present, the drums were removed, and that the violations cited in the previous inspection (August 22, 1989) had been resolved.

In response to the Notice of Violation, a soil boring program was conducted by the Waste Disposal Engineering Division of AEHA (as reported in Geohydrologic Study No. 38-26-8916-90, April 16-20, 1990), to define the extent of potential contamination. Petroleum hydrocarbons and semi-volatile organic compounds (pyrene, bis (2-ethylhexyl) phthalate, fluoranthene, and phenanthrene) were detected.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of VOCs in the soils.

Extended Storage Yard

The Extended Storage Yard is an area adjacent to the western side of the Former Storage Yard. This area was reportedly used to store the same types of materials as the Former Storage Yard (waste oil, waste antifreeze, spent solvent, etc.).

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of VOCs and elevated concentrations of metals.

Former Coal Storage Area

The Former Coal Storage Area is a concrete slab located in the northern portion of the Former Storage Yard. It covers an area approximately 50 feet by 50 feet in size. Because coal was formerly stored on the concrete slab, it is presumed that hazardous constituents [polynuclear aromatic hydrocarbons (PAHs) and metals] may be present adjacent to the concrete slab.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of elevated concentrations of metals in soils.

Building 80

See Table 4.4-1.

15. *Former Coal Tar Storage Area/Former POL Area [Parcel 15D-PS/PR(P)/L(P)]*

Former POL Area

The Former POL Area is a flat area approximately 50 feet by 50 feet in size located west of the Administration Area and south of the STP. The area was reportedly used to dispose of waste oils and solvents until approximately 1975. When this area was closed and covered with soil in 1975, it was reported that the soils appeared to be saturated with oil. Approximately 200 gallons per year of POL wastes, and possibly some solvents, were reportedly disposed of in this area by pouring them on the ground.

In November 1980, a monitoring well was installed downgradient (north) of the Former POL Area. Because of the lack of water in the monitoring well in 1981, no sample was collected. In 1992, no discolored or stained surficial soil was reported, although stressed vegetation was noted.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

Former Coal Tar Storage Area

The Former Coal Tar Storage Area is located east of the Former POL Area. The area contains three aboveground storage tanks (ASTs) which were used to store coal tar during the 1950s and 1960s.

Soil sampling was conducted as part of the ongoing RI/FS. The results should be releasable by April 1994.

16. Building 35 [Parcel 16D-PS/A(P)/L(P)]

Building 35 is located in the eastern portion of the Administration Area. An UST is reportedly located near the building. The UST was initially used to store kerosene, and later diesel fuel.

17. Buildings Within the Administration Area [Parcel 17D-HS/HR/PS/PR/A/L]

Building 5 (Garage)

Building 5 was used for general facility and automotive maintenance, and had been in use since the 1940s. Activities in the building have included automotive repair and wash, arc and acetylene welding, and battery charging. In the past, battery acid was neutralized in the battery service area using soda ash. The neutralized solution was disposed of in a sump which drains to a storm sewer. Additionally, the wastes from the vehicle wash (a mixture of water, oils, and greases) were disposed of in a storm sewer.

Waste materials generated as a result of activities in Building 5 potentially included waste oils, solvents, sulfuric acid, greases, insecticides, and pesticides. Naphtha and 1,1,1-trichloroethane were identified as two specific solvents previously used in this building. Sampling of sump sediment in 1991 verified the presence of arsenic, barium, nickel, silver, and lead.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of VOCs, SVOCs, and pesticides in soils.

Motor Fuel Station (Building 6)

Three USTs were previously located adjacent to the Motor Fuel Station (Building 6). Two of the USTs were used to store gasoline and one to store diesel. According to the Master Environmental Plan (1990), USTs were initially installed in the early 1940s and later replaced in the early 1970s.

The USTs were removed in January 1993, by Envirotek. Post-excavation samples were collected, soil borings installed, and a closure report prepared. Reportedly, holes in the USTs were observed upon their removal.

Former Paint Shop (Building 8)

The Former Paint Shop is located in the Administration Area, south of Building 15. The building is approximately 30 feet by 50 feet in size. Because of the nature of operations, it is presumed that paints, mineral spirits, and solvents were stored and used in the building.

The area adjacent to the building reportedly exhibited vegetative stress or staining in the past and was determined to be of concern. In 1992, the surrounding soil was inspected for signs of visible contamination. No evidence of contamination was observed at that time.

Soil and sediment sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of VOCs and elevated concentrations of metals in soils and sediments.

Former Locomotive Shop (Building 11)

Building 11 is 6,228 sq. ft. in size and located in the Administration Area. The western portion of the building was a storage and maintenance area for a locomotive used at FWDA. Three sets of rail lines enter the building from the west and a single pit is located under the southern-most set of tracks. The pit is covered with 2-inch by 12-inch wide wooden boards. No drain was observed in the pit. The wood, adjacent concrete, and area within the pit were oil stained. It was reported that lubricants, oils, and solvents had been used within the shop area.

The remainder of the building contains an office area and backup generators, transformers, and electrical panels for FWDA. Building 11 has a basement which contains two sumps. Building 11 was reported to contain a transformer that leaked onto the basement floor for several months before it was detected. Also, a leaking PCB transformer was stored in Building 11 for an undocumented amount of time. Staining was observed on the floor under the generators and in the two sumps in the basement.

It was reported that an AST was located adjacent to Building 11 (M&E, 1992). The AST was reportedly used to store heating fuel.

Soil and interior wipe and chip sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of PCBs in surface wipes, concrete chips, and sump sediment.

Building 15 (Garage)

Building 15 is located in the Administration Area and has been used for general facility and automotive maintenance since the 1940s. Building 15 is 17,440 sq. ft. in size. Prior to 1980, the building was used as a maintenance shop for heavy equipment and automotive maintenance. Activities in Building 15 included spray painting, battery charging, plumbing and electrical work, and mixing of insecticides and pesticides. Since 1980, the building has been used for general storage and waste oil storage.

Waste materials generated as a result of activities in the building potentially included waste oils, solvents, sulfuric acid, greases, insecticides, and pesticides. Naphtha and 1,1,1-trichloroethane were identified as two specific solvents previously used in the building.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of pesticides in soils.

Former Herbicide Storage Building (Building 29)

The Former Herbicide Storage Building (also referred to as the Inert Storage Warehouse) is located in the Administration Area, northwest of the Fire Training Ground and south of Buildings 12 and 13. This building is approximately 46,800 sq. ft. in size and was used in the past for the storage of herbicides and pesticides. The chemicals were reportedly stored in leak-proof containers on the concrete floor.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of pesticides in soils.

Building 36

This building is located in the southern portion of the Administration Area. It was reported that an UST is located near the building (M&E, 1992). The UST was reportedly used to store diesel fuel.

Buildings 3, 7, 9, 12, 13, 16, and 30

See Table 4.4-1.

18. Fire Training Ground [Parcel 18D-PR]

The Fire Training Ground is located in the southeastern corner of the Administration Area. The area is flat, vegetated, and covers an area approximately 100 feet by 500 feet in size. A rail car is located in the western portion of the site. A fill pipe is reportedly located to the west of the rail car. Two unlined pits, approximately 20 feet in diameter and 0.5 to 2 feet deep, are located in the central portion of the site, one to the northeast of the rail car and the other to the southeast. The two unlined pits and the rail car were reportedly used approximately three times per year for fire training exercises starting in 1970. The pits had as much as 55 gallons of fuel, solvents, or oil dumped into them as the fuel source for the training exercise.

During a site inspection in 1990, oil staining was observed in the soils and solvent and fuel odors were noted. The Fire Training Ground was no longer in use at that time. Minor soil staining was observed in the vicinity of both the rail car and southern pit during a site visit in 1992. However, no fuel odors were detected.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of VOCs, SVOCs, and elevated concentrations of metals in soils.

19. Former TNT Washout Facilities [Parcel 19D - HS/HR/A/L]

Demilitarization operations were conducted from 1949 to 1967 in the Workshop Area. Munitions were received in Building 503 (Former TNT Washout/Flaker Building) where they were unpacked, broken down, and a hot water washout operation was conducted to flush the munitions' contents (2,4,6-TNT, RDX, and Tritonal). The hot water for this process was supplied by the Boiler Building (Building 501). The fluid containing the munitions' contents (pink water) was pumped into a storage and drying tank located in the flaker room on the second floor of Building 503. The dried flakes dropped into a hopper in the washout room below and were boxed and shipped to various Army ammunition plants for reuse.

The pink water from the TNT washout process was drained into three settling tanks (including Washout Tank 505) located on the northern and eastern sides of Building 503. Prior to 1962, overflow from the tanks drained into a triangular shaped leaching bed on the western side of Building 503. This Pre-1962 Leaching Bed was approximately 100 feet by 150 feet by 150 feet in size. In 1962, two rectangular shaped leaching beds, each approximately 250 feet by 250 feet in size and 3 feet deep, were

constructed across Arterial Road No. 4, north of Building 503. These leaching beds were connected to the settling tanks by a trough through which the overflow was transported. These beds were used until 1967, when washout operations were discontinued.

Approximately 9,000 liters of overflow per day were disposed of in the leaching beds. The soils from the bottom of the leaching beds were occasionally removed and burned in the Old Burning Ground. When operations were shut down in 1967, the bottom soil from the leaching beds was removed and burned in the Old Burning Ground.

In 1981, five soil samples were collected in the vicinity of the Former TNT Washout Facilities. Elevated levels of 2,4,6-TNT were detected in four samples, 2,4-DNT in two samples, and 1,3,5-TNB was detected in one sample. Four ground water monitoring wells surrounding the leaching beds were also installed. In 1981, the wells were dry, therefore, no water samples were collected.

As part of the ongoing RI/FS, the existing wells were evaluated. Three of the wells were dry. One well, located in the assumed upgradient direction of the Former TNT Washout Facilities, contained water, and a ground water sample was collected. No constituents of concern were detected.

Pre-1962 Leaching Bed

This site was used to dispose of water used in the washout of munitions. Based on the nature of this operation, it is probable that explosive compounds are present at this site. As part of the ongoing RI/FS, surface and subsurface soil sampling was conducted. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds in soils.

Post-1962 Leaching Beds

This site was used to dispose of water used in the washout of munitions. Based on the nature of this operation, it is probable that explosive compounds are present at this site. As part of the ongoing RI/FS, surface and subsurface soil sampling was conducted. The results were available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds in soils.

Former TNT Washout/Flaker Building (Building 503)

Washout of munitions for the reclamation of explosives was performed in this building. Based on the nature of this operation, it is probable that explosive compounds are present at the site. As part of the ongoing

RI/FS, wipe sampling of the interior surface was conducted. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds in soils.

The building contains numerous pipes which transported the water used to rinse munitions. It is probable that these pipes contain explosive compounds and are potentially explosive hazards.

Former TNT Settling Basins

Water which had been used to wash out munitions to reclaim the explosives was discharged to the Former TNT Settling Basins. Explosives would settle out of the water and accumulate in the Basins until sufficient volume was present to remove. It was presumed that explosives residues were present in these structures. As part of the ongoing RI/FS, surface water and sump sediment sampling was conducted. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of explosive compounds in surface water and explosive compounds, VOCs, and elevated concentrations of metals in the sediment.

Former TNT Washout Tank

Water which had been used to wash out munitions to reclaim the explosives was stored in the TNT Washout Tank. Based on the nature of this operation, it is probable that explosive compounds are present at the site. As part of the ongoing RI/FS, wipe sampling of the interior surface was conducted. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

Former Boiler House (Building 501)

The Former Boiler House heated water used to wash out munitions to reclaim the explosives. It is presumed that washout operations were also performed at this site. Based on the nature of this operation, it is probable that explosive compounds are present at the site.

In 1992, absorbent material and oil staining were noted on the floor to the north of the furnaces along the northern wall, and slight staining was observed along both the eastern and western walls.

Surface wipe and concrete chip sampling was conducted as part of the ongoing RI/FS. Results indicate the presence of hazardous materials (i.e., PCBs).

As part of the ongoing RI/FS, a site investigation revealed staining on a concrete pad located at a substation, north of Building 501. Surface wipe

sampling of the stained concrete was conducted. Results indicate the presence of hazardous materials (PCB 1260).

20. Ammunition Painting/Acid Washout Facilities [Parcel 20D-HS/HR/A]

The Acid Waste Holding Pond is located adjacent to the western side of the Ammunition Painting/Acid Washout Building (Building 515). This building is approximately 4,200 sq. ft. in size and reportedly contains lavatory facilities that are serviced by a septic system which includes a drain field. Building 515 was used as a paint shop from the late 1940s through the late 1960s. Acids were used to pickle surfaces of metal parts prior to painting them. The spent acid solutions from the pickling tanks were discharged without treatment to the holding pond and allowed to evaporate and infiltrate into the ground. According to FWDA's RCRA Part A Permit, dated August 1980, the pond was also used for treatment of solvents, chlordane, and other chemical wastes.

In 1981, one soil sample was collected from within the Acid Waste Holding Pond. The sample contained levels of pesticides, one PCB compound, and elevated total phosphate. Also, two ground water monitoring wells were installed near the Acid Waste Holding Pond. The two ground water monitoring wells were dry during sampling activities in 1981, therefore no ground water samples were collected.

As part of the ongoing RI/FS, the existing wells were evaluated. The wells were dry, therefore, no ground water samples were collected.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of pesticides and elevated concentrations of metals in soils.

As part of the ongoing RI/FS, a site inspection revealed a pole-mounted transformer near Building 515. Surface soil sampling of stained material located under the transformer was conducted. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of hazardous materials (PCB 1260).

Building 515

See Table 4.4-1.

21. *Former Deactivation Furnace (Building 530) [Parcel 21D-HS/HR/PS/L(P)]*

The Former Deactivation Furnace was located in Building 530 in the southern part of the Workshop Area. The building (which is approximately 4,000 sq. ft. in size), furnace foundation, and several associated concrete areas are all that currently remain of this unit. The furnace was used from the late 1950s to the late 1960s to melt cartridges and small arms ammunition to recover the metals they contained. The wastes were disposed of in the Burning Grounds Area.

From 1982 to 1986 the furnace was used again, this time to demilitarize white-phosphorus munitions. Explosives were removed from the munitions prior to arriving at the deactivation furnace. White phosphorus was then burned off so the metal could be recovered. The furnace was dismantled in 1986 and disposed of by the DRMO. It was reported that portions of the furnace may have been disposed of in two acid pits located adjacent to this unit. Acid was used at this location for the purpose of air pollution control.

Based on the nature of this operation, it is probable that hazardous materials are present at the site. As part of the ongoing RI/FS, surface soil and sediment sampling was conducted. The results were made available for regulatory review on 28 January 1994. Results of the sampling appears to indicate elevated levels of cadmium.

It was reported that two ASTs were located adjacent to Building 530 (M&E, 1992). These ASTs were used to store diesel fuel and have been removed.

22. *Pesticide Storage Building (Building 537) [Parcel 22D-HS/HR/A/L(P)]*

The Pesticide Storage Building is located in the southern part of the Workshop Area, east of the Former Deactivation Furnace. It is approximately 4,200 sq. ft. in size. The building had reportedly been used to store and mix pesticides for many years. The pesticides were stored in leak-proof containers. In 1992, it was observed that all openings in the floor and walls, such as pipe runs, had been recently sealed and that a containment curb had been installed around the storage area. Additionally, a concrete pit was observed in the basement of this building that contained water and sediment.

Soil and interior wipe sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of hazardous materials, such

as DDE and DDT, in the soil adjacent to the building, and on interior surfaces.

23. *Former Ammunition Maintenance Building (Building 528) [Parcel 23D-HS/HR/PS/A/L(P)]*

The Former Ammunition Maintenance Building (Building 528) is located in the Workshop Area, south of the TNT Washout Facilities along Normal Maintenance Avenue. It was reported that this building, approximately 4,500 sq. ft. in size, was used for ammunition demilitarization, milling and tapping, spray painting, and stenciling. Materials used in this operation that are considered possible contaminants include oils, greases, solvents, paint, and paint thinner. Other potential contaminants that may have been associated with operations at this building include propellants, explosives, and metals.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of SVOCs, explosives compounds, and elevated concentrations of metals in soils.

24. *Buildings 535 and 536 [Parcel 24D-HR/PS/A/L(P)]*

Building 535

See Table 4.4-1.

Building 536

Building 536 is located near the southern edge of the Workshop Area. It was reported that an UST, located near the building, was used to store diesel fuel (M&E, 1992).

As part of the ongoing RI/FS, a site inspection revealed a pole-mounted transformer near Building 536. Surface soil sampling of stained material located under the transformer was conducted. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of hazardous materials (PCB 1254).

25. *Current Landfill [Parcel 25D-HR(P)]*

The Current Landfill is located to the west of the Workshop Area and to the east of Igloo Block B. The landfill area encompasses approximately 2 acres of relatively flat land. The extent of landfilling is clearly visible in the field. The western extent is constrained by bedrock exposures, and the natural topography of the area is evident to the north, south, and east. An

arroyo lies approximately 200 feet to the east of the easternmost extent of landfilling. The landfill has been covered and is sparsely overgrown with brush.

Disposal of material in the current landfill began in 1969. Materials reportedly disposed include: cardboard, paper, pesticide containers, asbestos-containing building materials, and land-dried sewage sludge. Use of this landfill was discontinued in 1982.

In 1981, one soil sample was collected from a depth of 2 feet below ground surface (bgs) at a location downgradient (north) of the Current Landfill to determine whether potential contamination has migrated from the landfill. Aroclor 1016, DDD, dieldrin, endosulfan sulfate, and endrin were reported in trace concentrations.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

26. *Old Landfill [Parcel 26D-HR/A(P)]*

The Old Landfill was reportedly located near a water tower to the east of the Administration Area. Prior to 1968, the Old Landfill was used for the routine burial of garbage, trash, and debris generated at FWDA. In addition, solid waste was burned, and pesticide containers and ACM were disposed at the Old Landfill. In 1968, the Old Landfill was covered by a layer of soil.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of elevated concentrations of metals in soils.

27. *Functional Test Range 2/3 [Parcel 27D-HR(P)/X]*

Functional Test Ranges 2 and 3 (FTR 2/3) are located in the northeastern portion of FWDA, to the north of Igloo Block G and surround the eastern part of Igloo Block K. These FTRs are located adjacent to each other and are treated as one site. FTR 2/3 covers an area of approximately 585 acres. FTR 2 was used in the 1960s to test a variety of munitions, rockets and mortars. FTR 2 is mostly vegetated, except for a small area in the northeast portion where there is less vegetation. FTR 3 was used in the 1960s to test high explosives and contained many craters. It is currently vegetated. Based on past operations, it is presumed that explosives residues (e.g., TNT and DNT) are present at the site.

Soil sampling and surface screening of the site for the presence of UXO were conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of UXO scattered throughout this area.

28. *Pistol Range [Parcel 28D-HR]*

The Pistol Range is located approximately 2.5 miles southeast of the Administration Area and covers an area approximately 70 by 200 feet in size. It has been used for a number of years but no specific details regarding the start date or other uses have been identified. The Pistol Range is situated at the base of a hillside which was used as a natural backstop for the target area.

Surface soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of hazardous levels of lead at the site.

29. *Functional Test Range 1 [Parcel 29D-HR(P)/X]*

FTR 1 is located in the east-central portion of FWDA between Igloo Blocks E and H. FTR 1 is approximately 345 acres in size and was originally used as a powder burning area in the 1940s. During the 1950s, the site was used for flare and signal grenade testing. Residues were piled by the bank of an arroyo near the eastern part of the site. It was reported that scrap metal and shrapnel were observed over a large portion of this site. The site is currently covered with grass. Based on past operations, it is probable that explosives residues (e.g., TNT and DNT) are present at the site.

Soil sampling and surface screening of the site for the presence of UXO were conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of UXO scattered throughout this area.

30. *Group C Disposal Area [Parcel 30D-HR(P)/X(P)]*

This site is located adjacent to and in the arroyo due east of the southern end of Igloo Block C. Spent shell casings, tires, and metal scraps have been observed within the arroyo. Disposed materials were present in the arroyo walls to a depth of three feet below the ground surface. Also, adjacent to the arroyo is a conspicuously flat area, suggesting it may have been graded or leveled. Disposal of unknown materials at this site is considered probable evidence that hazardous materials are present. Also, there is a possibility that this area could contain UXO.

In 1981, one soil sample was collected from the Group C Disposal Area. No target parameters were detected.

Soil sampling and a UXO survey were conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of elevated concentrations of metals in soils. No evidence of UXO was identified.

Burning /Demolition Areas

The Burning/Demolition Areas are located in the west-central portion of the installation near Fenced-Up Horse Valley. The total area of the Burning/Demolition Areas is approximately 1,100 acres in size. The area includes four sub areas: Burning Ground, Burning Ground/Demolition Landfill, Open Burning and Detonation Area (OBDA), and Old Demolition Area.

The Burning Ground and OBDA were operating facilities prior to the base closure in January 1993; they were managed under RCRA Part B Interim status. The Old Burning Ground/Demolition Landfill and the Old Demolition Area ceased operation in 1955.

31. Burning/Detonation Area [Parcel 31D-HR(P)/X]

Burning Ground

The Burning Ground is located inside the fenced OB/OD Area. It is located in a valley immediately east of an arroyo and west of the OBDA. The Burning Ground is approximately 2 acres in size. Since 1955, it has been used as a site to burn propellants and propellant-contaminated materials. Prior to 1982, all wastes were burned in unconfined settings. After 1982, all wastes have been burned in two troughs and two trays. The troughs and trays are located several hundred feet north of the unconfined burning area used prior to 1982. The trays were covered and positioned directly on the ground. Based on past operations, it is probable that explosive residue (e.g., TNT and DNT) are present at the site.

Surface screening of the site for the presence of UXO was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of UXO scattered throughout this area.

Investigation of this area is currently being conducted as part of the RCRA Interim Status Closure Plan which was approved by the New Mexico Environmental Department (NMED) on 20 January 1994.

Open Burning and Detonation Area

The OBDA is located just south of Fenced-up Horse Valley. This area is approximately 38 acres in size and includes open and covered demolition pits and trenches. Although open detonation of explosives in quantities less than 5,000 pounds was allowed, it became standard practice for all detonations to be covered. This area was routinely graded and groomed. Based on past operations, it is probable that explosive residue (e.g., TNT and DNT) are present at the site.

Surface screening of the site for the presence of UXO was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of UXO scattered throughout this area.

Investigation of this area is currently being conducted as part of the RCRA Interim Status Closure Plan which was approved by the New Mexico Environmental Department (NMED) on 20 January 1994.

32. Old Burning Ground/Demolition Landfill [Parcel 32D-HR/X(P)]

The Old Burning Ground/Demolition Landfill is located in Fenced Up Horse Valley, at the end of Burning Area Road. It encompasses approximately 26 acres and was used from 1948 until the late 1950s to dispose of explosive contaminated waste from the TNT Washout Plant and old equipment from the TNT drying and flaking operations. In the mid-1950s, the area was used to openly burn up to 30,000 pounds of explosives at a time. It was reported that debris was exposed by erosion in the arroyo at depths in excess of 10 feet. Debris included shell casings that had propellant remnants inside, metal strapping material, and other metal materials. The extent of landfilling in this area is not known, but is constrained on the northwest by bedrock exposures, and on the southeast by an arroyo in Fenced-Up Horse Valley.

In 1981, three soil samples were collected from within the Old Burning Ground and an arroyo containing munitions refuse. Nitroaromatic (explosives) compounds were detected in both samples collected within the Old Burning Ground and TNT in one of the samples. The arroyo sample contained endosulfan sulfate and Aroclor 1016.

Surface geophysical and UXO surveys were conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of buried metal.

33. Old Demolition Ground Area [Parcel 33D-HR/X(P)]

This site is located south of the Old Burning Ground/Demolition Landfill, adjacent to the FWDA's western boundary. It encompasses approximately 71 acres. This area was identified by the Army as an old demolition area in 1981, and therefore, probably contains UXO. Explosives from the holding tank of the TNT Washout Plant were shipped to this area and burned in the open. The exact boundaries of this area are not well known. However, there are three mounds that have been identified as being part of this area. Reportedly, these mounds exhibit limited evidence of metallic debris or other activity and the area is overgrown with sparse vegetation.

In 1981, one soil sample was collected from within the Old Demolition Area. The nitroaromatic compound 2,4,6-TNT was detected.

Surface geophysical and UXO surveys, and sediment sampling were conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of buried metal and elevated concentrations of metals in sediments.

34. Unused Missile Site [Parcel 34D-HR(P)]

This four acre site is located in the southern portion of FWDA, near the eastern border of the facility where the access road from State Highway 400 enters FWDA. It was reported that this site was never used to launch missiles. However, this site was identified in the Final Technical Plan (M&E, 1992) as probably containing hazardous materials.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

35. Ballistic Missile Testing Site [Parcel 35D-HR(P)/PR(P)]

This four acre site is located in the southeastern corner of FWDA between Missile MSR No. 1 and Launch Road No. 1. The Ballistic Missile Testing (BMT) Site was used at various times between 1963 and 1967 for the launching of ballistic missiles. It has also been reported that two rocket motors were buried at the BMT Site in the vicinity of the concrete pad.

Because of the nature of the launch activities and the presumption that at least some maintenance operations were performed in conjunction with launch operations, the release of hazardous materials, such as solvents, petroleum products, and propellants, is possible.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

36. *Pershing Missile Site [Parcel 36D-HR(P)/PR(P)]*

This three acre site is located in the southeastern corner of FWDA near Lake McFerren. The Pershing Missile (PM) Site was used at various times between 1963 and 1967 for launching Pershing missiles. Because of the nature of launch activities and the presumption that at least some maintenance operations were performed in conjunction with launch operations, the release of hazardous materials, such as solvents, petroleum products, and propellants, is possible.

Soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

37. *Western Pistol Range [Parcel 37D-HR(P)]*

The Western Pistol Range is located near the western boundary of FWDA, east of West Patrol Road and south of Igloo Block C. No information regarding the time period of use was available. The Western Pistol Range is situated at the base of a hillside which was used as a natural backstop for the target area.

Surface soil sampling was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. No constituents of concern were detected.

Gate 209

One AST was reported to be located adjacent to Gate 209 (M&E, 1992). This gate could not be located on facility maps and it therefore is not a designated Disqualified Parcel on the maps in Section 5.2.

4.2

ADDITIONAL AREAS IDENTIFIED

As previously referenced, an RI/FS was conducted during the period of November 1991 to January 1994. Therefore, no new areas of environmental concern were identified as a result of the CERFA investigation; all areas of environmental concern were identified during previous investigations or the RI/FS.

ADJACENT/SURROUNDING PROPERTIES

FWDA is almost entirely surrounded by Federally owned or administered lands including both national forest and Native American reservation lands. North and east of FWDA is the Navajo Reservation. Development north of FWDA includes Red Rock State Park, a Zuni railroad siding, an El Paso National Gas fractionating plant and housing area, the small Navajo community of Church Rock, and transportation corridors for Interstate-40, old U.S. Highway 66, and the Atchison, Topeka and Santa Fe Railroad. The community of Fort Wingate, located immediately to the east of FWDA on reservation land, was the original fort headquarters site. To the south and southeast is the largely undeveloped Cibola National Forest. The land to the west is in checkerboard ownership, with management responsibilities divided between the Bureau of Land Management (BLM), Bureau of Indian Affairs (Navajo tribal trust land), Navajo tribe (fee lands), and individual Native American allottees. Most of this land is undeveloped, except for the Sundance subdivision and coal mine, and Rehoboth Mission, which are located about 0.5 and 1.5 miles west of FWDA, respectively. The corporate limit of Gallup is located approximately 8 miles west of FWDA. None of these surrounding properties have been identified as potential sources of contamination with respect to FWDA.

A sewage treatment plant which serves the town of Fort Wingate is located east of FWDA. The outflow from this plant discharges to the South Fork of the Puerco River immediately upstream of the FWDA boundary. There is a potential that discharges from this plant could impact FWDA. Samples taken during the RI/FS revealed very low levels of pesticides and SVOCs but, at this time, even these low levels cannot be attributed to the sewage treatment plant.

The discharge of a significant volume of uranium mine tailings pond water to the South Fork of the Puerco River has been reported. A telephone conversation with Mr. Dennis McQuillen of the New Mexico Environmental Department confirmed that millions of gallons of this water was discharged into an arroyo in Pipeline Canyon in July, 1979. Pipeline Canyon could not be located on U.S. Geological Survey topographic maps, however, west of FWDA, a canyon was located through which pipelines were routed. It is assumed that this canyon is the location indicated by Mr. McQuillen. Because this canyon is located west of FWDA and the South Fork of the Puerco River flows toward the west, the discharge of uranium mine tailing pond water would not have impacted FWDA.

RELATED ENVIRONMENTAL, HAZARD, AND SAFETY ISSUES

Military installations frequently contain issues which the U.S. Army Environmental Center (USAEC) believes fall outside of the provisions of CERFA. For example, while a release of lead-based paint onto the ground may be a CERCLA concern, the application of lead-based paint to a building surface is generally not. However, lead-based paint applied to buildings may represent a safety hazard to young children. Similarly, other substances or materials commonly applied to or found in buildings (for example, radon and asbestos) may not be explicitly regulated under CERCLA, but may require a notice to potential transferees and lessees that they exist.

USAEC has sought to balance the statutory requirements of CERFA with the law's intent to identify uncontaminated property to the public which can be expeditiously reused. Notice has been provided for those parcels which appear to be uncontaminated under the definition provided in CERFA, but which may contain environmental, hazard, or safety issues. Buildings which contain asbestos-containing materials, lead-based paint, or naturally occurring radon fall into this category and are identified as "CERFA Qualified Parcels" in this CERFA report. Parcels which contain stored (not in use) equipment containing 50 parts per million (ppm) or more of polychlorinated biphenyl (PCB) oil, low level radionuclide-containing equipment such as dials and weapon site posts, and unexploded ordnance are also designated "CERFA Qualified Parcels".

In those cases, however, where for example, asbestos or PCBs have been disposed in the environment, the parcel has been identified as "CERFA Disqualified". In this example, the designation indicates that a CERCLA hazard may exist at this location.

The sites described below are numbered to follow the sequence established by Section 4.1 and correspond to the site map (Figure 5.1-1) and accompanying map table.

Those CERFA Qualifiers which are located in Disqualified Parcels are included in the discussion in Section 4.1.

The following areas have been designated CERFA Qualified Parcels.

38. *Building 18 [Parcel 38Q-A/L(P)]*
39. *Building 1 [Parcel 39Q-A/L(P)]*
40. *Building 48 [Parcel 40Q-L(P)]*

41. *Buildings 43 and 79 [Parcel 41Q-A(P)/L(P)]*
42. *Building 23 [Parcel 42Q-A(P)/L(P)]*
43. *Building 10 [Parcel 43Q-A(P)/L(P)]*
44. *Administrative and Residential Buildings [Parcel 44Q-A/L]*
45. *Building 17 [Parcel 45Q-A/L]*
46. *Buildings 30, 31, 33 and 51 [Parcel 46Q-A/L]*
47. *Buildings 541 and 542 [Parcel 47Q-A/L]*
48. *Buildings 509, 510, 511, 512, 514, 515, and 522 [Parcel 48Q-A/L]*
49. *Building 539 [Parcel 49Q-A(P)/L(P)]*
50. *Building 527 [Parcel 50Q-A/L(P)]*
51. *Building 529 [Parcel 51Q-A(P)/L(P)]*
52. *Buildings 510, 516, and 520 [Parcel 52Q-A(P)/L(P)]*
53. *Buildings 216 and 217 [Parcel 53Q-L(P)]*
54. *Building 316 [Parcel 54Q-A(P)/L(P)]*
55. *Building 312 [Parcel 55Q-A(P)/L(P)]*
56. *Building 301 [Parcel 56Q-A/L(P)]*
57. *Building 352 [Parcel 57Q-A(P)/L(P)]*
58. *Building 303 [Parcel 58Q-A/L(P)]*
59. *Building 304 [Parcel 59Q-A/L(P)]*
60. *Building 305 [Parcel 60Q-A/L(P)]*
61. *Buildings 60 and 67 (Water Tanks) [Parcel 61Q-L(P)]*
62. *Buildings 52, 46 and 53 (Radio Towers) [Parcel 62Q-A(P)/L(P)]*
63. *Building 306 [Parcel 63Q-A/L(P)]*

64. *Building 307 [Parcel 64Q-A/L(P)]*
65. *Building 308 [Parcel 65Q-A/L(P)]*
66. *Building 309 [Parcel 66Q-A/L(P)]*
67. *Building 310 [Parcel 67Q-A/L(P)]*
68. *Building 311 [Parcel 68Q-A/L(P)]*
69. *Building 103 [Parcel 69Q-A(P)/L(P)]*
70. *Buildings 106 and 110 [Parcel 70Q-A(P)/L(P)]*
71. *Building 340 [Parcel 71Q-A(P)/L(P)]*
72. *Building 116 [Parcel 72Q-A(P)/L(P)]*
73. *Building 410 [Parcel 73Q-A(P)/L(P)]*
74. *Building 401 [Parcel 74Q-A(P)/L(P)]*
75. *Buildings 406 and 411 [Parcel 75Q-A(P)/L(P)]*
76. *Buildings 412 [Parcel 76Q-A(P)/L(P)]*
77. *Buildings 407 and 413 [Parcel 77Q-A(P)/L(P)]*
78. *Buildings 409, 414, and 415 [Parcel 78Q-A(P)/L(P)]*
79. *Building 601 [Parcel 79Q-A(P)/L(P)]*
80. *Demolition Kickout Area [Parcel 80Q-X]*

Open detonation of explosives was performed within this area in the past. The Demolition Kickout Area surrounds the former detonation area. Incomplete detonation can result in kickout of material which is capable of exploding and thus is termed UXO.

Surface screening for the presence of UXO was conducted as part of the ongoing RI/FS. The results were made available for regulatory review on 28 January 1994. Results indicate the presence of UXO scattered throughout this area.

The ordnance items located, removed or marked for blow-in-place (BIP) totaled approximately 27,921. This encompassed 27,003 live ordnance

items staged and 918 items considered too sensitive to move. Several tons of non-explosive or empty ordnance debris were also removed from the survey areas and staged.

EOD support was provided by the 52D Ordnance Group, Fort Gillem, GA over four (4) separate mobilizations occurring from May through December 1993.

81. Buildings 40 and 41 [Parcel 81Q-A/L(P)]

Scattered Utility Buildings

Throughout FWDA there are between 20 and 50 small, unnamed, unnumbered utility sheds/buildings present, many of which are temporary structures, the vast majority of which do not appear on the maps in Section 5.1. Although there are few accurate records, it is assumed that these structures were constructed prior to 1978 and therefore, probably contain LBP. It is unlikely, but possible, that some of these structures contain ACM.

4.5 CERFA EXCLUDED PROPERTY

There are no CERFA Excluded Parcels on FWDA.

After concluding the review of investigation documents, regulatory records, personnel interviews and visual inspections, ERM identified parcels on the installation as CERFA Parcels, CERFA Qualified Parcels, CERFA Disqualified Parcels, or CERFA Excluded Parcels in accordance with the definitions in Section 1.2. The parcels are delineated on a map of the BRAC portion of the installation using a one-acre square grid for boundary definition. The Army chose a one-acre grid system to aid in the presentation of data gathered during the CERFA report investigation, and to facilitate use of the document by reuse groups and others. The one-acre grid provided a consistent method to report and locate environmental or other concerns. In the many cases where the concerns are much smaller than once acre, the grid system simplifies the depiction of the concern. Accordingly, the areal extent of many small areas of concern, such as UST sites, are liberally depicted in the CERFA report.

Additionally, the one-acre grid size was chosen as a generally redevelopable parcel size for either industrial or residential uses. However, the grid does not drive reuse nor restrict it. Reuse decisions should be made irrespective of the grid.

The entire one-acre grid square is colored or shaded to indicate the applicable parcel category based on the history of storage or release for any portion of that square. Parcels are labeled according to a system outlined in Section 1.2 of this report to indicate the applicable parcel category and the contaminating circumstances. Parcel labels are connected to the respective parcel boundaries by a line or are located within the parcel boundaries.

Where CERFA Disqualified Parcels and CERFA Qualified Parcels have coincided, the overlapped area has been designated CERFA Disqualified. Labels for any such overlapped parcels also indicate the presence of the qualifying hazards. CERFA Excluded Parcels have been excluded from this investigation of contaminant locations and therefore have no overlapping CERFA Disqualified Parcels or CERFA Qualified Parcels. Structures within CERFA Disqualified Parcels that contain qualifying safety hazards are designated with the applicable qualifying label, where map scale permits this level of detail.

ERM's investigation and subsequent parcelization of FWDA determined that 16,339 acres of the facility fall within the CERFA Parcel category. There are 940 acres of the facility categorized as CERFA Qualified Parcels.

There are 4,533 acres on the facility classified as CERFA Disqualified Parcels. There are no CERFA Excluded Parcels.

In determining the applicable parcel categories for the installation property, ERM observed the following guidance provided by the USAEC for specific circumstances:

- Buildings constructed prior to 1978 are assumed to contain lead-based paint. A similar assumption is made for asbestos in buildings constructed prior to 1985.
- Storage of petroleum products, petroleum derivatives and CERCLA regulated hazardous substances will prevent an area from becoming a CERFA Parcel as long as that storage is for one year or greater. The quantity of substances stored is not relevant to determining the applicable parcel category. However, if the operation requiring such substances is in the immediate area, and the storage is in limited quantities for immediate use, the area is not precluded from being a CERFA Parcel.
- Non-leaking equipment containing less than 50 ppm PCBs does not preclude an area from becoming a CERFA Parcel. Non-leaking, out-of-service equipment with greater than 50 ppm PCBs will place an area in the CERFA Qualified Parcel category. An area is designated CERFA Disqualified if there is a known release containing greater than 50 ppm PCBs.
- Areas where there are transport systems or process equipment which handle hazardous material or petroleum products and upon which there have been no release, storage, or disposal are categorized as CERFA Parcels.
- Ordnance disposal locations are designated CERFA Disqualified. This does not include ordnance impact areas which are designated CERFA Qualified Parcels .
- Routine pesticide and herbicide application in accordance with manufacturer's directions and chlorofluorocarbons and halon in operational systems do not preclude an area from becoming a CERFA Parcel.
- Coal storage piles and railroad tracks do not be themselves preclude an area from becoming a CERFA Parcel.

5.1

CERFA CATEGORY AND DESIGNATION MAP

Table 5.1-1 and Figure 5.1-1 identify the breakdown of FWDA according to the criteria for parcel identification under CERFA.

5.2

CERFA TRACT MAP

The property boundaries and all property transfers including prior ownership information is shown in Figure 5.2-1.

5.3

CERFA PARCEL DESIGNATORS

Figure 5.3-1 summarizes the breakdown of FWDA property according to the criteria for parcel identification under CERFA.

Table 5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Site ID	Location	Contaminant	Assessment Basis	Completion Status
1D-HR/1/P (459 acres)	Igloo Block A Coordinates: 34.5, 22.5	Disqualified Interior surface and exterior surface soil explosives residue contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
2D-HR/1/P (427 acres)	Igloo Block B Coordinates: 61, 26.5	Disqualified Interior surface and exterior surface soil explosives residue contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
3D-HR/1/P (632 acres)	Igloo Block C Coordinates: 91, 23	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
4D-HR/1/P (452 acres)	Igloo Block D Coordinates: 83.5, 49	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
5D-HR/1/P (278 acres)	Igloo Block E Coordinates: 90, 65	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
6D-HR/1/P (609 acres)	Igloo Block F Coordinates: 77, 69.5	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
7D-HR/1/P (336 acres)	Igloo Block G Coordinates: 73.5, 98.5	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
8D-HR/05/1/P (400 acres)	Igloo Block H Coordinates: 118, 36.5	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
9D-HR/7/1/P (194 acres)	Igloo Block I Coordinates: 154.5, 37	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)
10D-HR/7/1/P/X Parcel Coordinates: 59, 86 (196 acres)	Igloo Block K	Disqualified Interior surface and exterior surface soil explosives contamination Lead paint (P)	Qualified	R/I/PS (1994) Pending future use determination and ultimate Record of Decision (ROD)

Le 5.1-1
Fort Wingate Depot Activity Site (FWDSA)
Gallup, New Mexico

Site Name	Address	Category	Year	Report Date and Page	Comments
	Former Functional Test Range 2/3	Qualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
11D-POL (2 acres)	Suspected POL Coordinates: 17, 48	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
12D-HR (4 acres)	Old Trash Burning Ground/Property Disposal Office Coordinates: 22, 43	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
13D-HR/AOP/LP	Severe Treatment Plant Storage Treatment Plant and Document Indicator) Parcel Coordinates: 24, 51 (5 acres)	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
	Document Incinerator Building 22	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Qualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Lead paint (P)			
		Ashtrays (P)			
14D-157/HK/FS/TK/LP	Former Storage Yard Coordinates: 29, 52 (Former Storage Area) Parcel Coordinates: 29, 52 (5 acres)	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
	Extended Storage Yard	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Storage and release of solvents and petroleum products			
	Former Coal Storage Area	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Release of PAHs and metals (P)			
	Building 80	Qualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Lead paint (P)			
15D-FS/PAP/LP	Former POL Area (Former POL and Former Coal Tar Storage Areas) 15D east. Parcel Coordinates: 32, 50 (5 acres)	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Disposal of waste oils and solvents (P).			
	Former Coal Tar Storage Area	Disqualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Asphalt used to store asphalt.			
	Building 38 Coordinates: 33, 58 (1 acre)	Qualified	1993	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
		Lead paint (P)			
		Ashtrays (P)			
		Lead paint (P)			

Table 5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Site Address 17D-18/HR/PK/A/L (Buildings within Administration Area) Parcel Coordinates 31, 55 (18 acres)	Building #	Category	CERCLA Status		RI/FS (1994) Extraction and off-site disposal (proposed)
			Qualified	Disqualified	
	Building 3		Asbestos Lead paint	Storage and use of waste oils, solvents, and pesticides.	RI/FS (1994)
	Building 6	Qualified	Asbestos (P) Lead paint	USTs used to store gasoline and diesel fuel.	RI/FS (1994)
	Building 8	Qualified	Asbestos Lead paint (P)	Use and storage of paints and solvents.	Pending future use determination and ultimate Record of Decision (ROD)
	Building 11	Qualified	Asbestos Lead paint (P)	AST used to store heating fuel. Release of PCBs.	RI/FS (1994)
	Building 13	Qualified	Asbestos Lead paint	Use and storage of waste oil, solvents, and pesticides.	RI/FS (1994)
	Building 29	Qualified	Asbestos Lead paint	Storage of pesticides and herbicides.	Pending future use determination and ultimate Record of Decision (ROD)
	Building 36	Qualified	Asbestos Lead paint (P)	UST used to store diesel fuel.	Pending future use determination and ultimate Record of Decision (ROD)

5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Category	Description	Category	Description
Building 7 Building 3, 9, 12, 13, & 30	Qualified Asbestos Lead Paint (P)	Building 7 Building 3, 9, 12, 13, & 30	Pending future use determination and ultimate Record of Decision (ROD) RI/FS (1994)
Fire Training Ground Coordinates: 37, 56	Qualified Asbestos (P) Lead Paint (P)	Fire Training Ground Coordinates: 37, 56	Pending future use determination and ultimate Record of Decision (ROD) RI/FS (1994)
18D-PK (3 acres)	Disqualified Waste petroleum products disposed of in pits	18D-HS/TNT/A/L/RD Former TNT Washout Facilities Parcel Coordinates: 45, 57.5 (17 acres)	Pending future use determination and ultimate Record of Decision (ROD) RI/FS (1994)
Pre-1962 Leaching Beds	Disqualified Soil contaminated with explosive compounds. Disposal of water containing explosive compounds.	Post-1962 Leaching Beds	Pending future use determination and off-site disposal (proposed) RI/FS (1994)
Former TNT Washout / Flaker Building (Building 503)	Disqualified Interior surface contaminated with explosive compounds. Explosive compounds present in pipes pose explosive hazard. Lead Paint (P) Asbestos	Former TNT Washout Tank	Pending future use determination and off-site disposal (proposed) RI/FS (1994)
Former TNT Settling Basins	Qualified Interior surface contaminated with explosive compounds.	Former TNT Settling Basins	Pending future use determination and ultimate Record of Decision (ROD) RI/FS (1994)
Former Boiler House (Building 501)	Disqualified Qualified Interior surface contaminated with PCBs. PCB contamination of concrete pad at substation north of building. Lead Paint (P) Asbestos	Former Boiler House (Building 501)	Pending future use determination and ultimate Record of Decision (ROD) RI/FS (1994)
20D-HS/TNT/A Washout Facilities Parcel Coordinates: 45, 57.5 (2 acres)	Disqualified Ammunition Painting Area Building 513	20D-HS/TNT/A Washout Facilities Building 513	Pending future use determination and ultimate Record of Decision (ROD) RI/FS (1994)
	Qualified Asbestos		Pending future use determination and ultimate Record of Decision (ROD) Asbestos.

Table 5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Site Name	Address	Parcel Coordinates	Category	Activity	Action Taken	Comments
21D-HS/HR/FS/L/P (4 acres)	Building 16	Qualified	Asbestos Lead Paint	Soil contaminated with cadmium. ASTs used to store diesel fuel.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
22D-HS/HR/A/L/P (1 acre)	Former Deactivation Furnace (Building 530) Coordinates: 33.5, 51.5	Disqualified				Interior remedial measures proposed; excavation and off-site disposal. ASTs removed
22D-HS/HR/A/L/P (5 acres)	Painted Storage Building (Building 537) Coordinates: 33, 50	Qualified	Asbestos Lead paint (P)	Soil and interior surface contaminated with DDE and DDT.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
22D-HS/HR/FS/A/L/P (2 acres)	Former Ammunition Maintenance Building (Building 526) Coordinates: 36.5, 57.5	Disqualified	Asbestos Lead paint (P)	Use, storage, and probable release of oils, solvents, and paints. Release of semi-volatile organic compounds and explosives.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
22D-HS/HR/A/L/P (Buildings 535 and 536)	Building 536 Parcel Coordinates 39.5, 47 (2 acres)	Qualified	Asbestos Lead paint (P)	UST used to store diesel fuel. PCB contamination under pole-mounted transformer near building.	RI/FS (1994)	Interior remedial measures proposed and off-site disposal.
22D-HR/H (2 acres)	Current Landfill Coordinates: 32.5, 42	Qualified	Asbestos Lead paint (P)		RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
22D-HR/H/A/P (15 acres)	Old Landfill Coordinates: 32, 73	Disqualified		Soil contaminated with PCB 1016, DDD, and endrin. Disposal of asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
				Disposal of pesticides and asbestos (P). Release of metals.		

e 5.1-1
Fort Wingate Depot Activity Site (FWDA)
 Gallup, New Mexico

Site Name	Location	Qualification	Basis	Action
22D-HR(07)X (531 acres)	Functional Test Range 2/3 Coordinates: 32, 105	Disqualified Qualified	Soil contaminated with explosive residue (P). Unexploded ordnance.	RI/FS (1994)
23D-HR (4 acres)	Plant Range Coordinates: 36.5, 102.5 Size: 4 acres	Disqualified Qualified	Soil contaminated with lead. Soil contaminated with explosive residue (P). Unexploded ordnance.	Interior remedial measures proposed; excavation and off-site disposal. Pending future use determination and ultimate Record of Decision (ROD)
23D-HR(07)X (492 acres)	Functional Test Range 1 Coordinates: 121, 53.5	Disqualified Qualified	Soil contaminated with explosive residue (P). Unexploded ordnance (P).	RI/FS (1994)
31D-HR(P)/7(XP) (2 acres)	Group C Disposal Coordinates: 103.5, 19	Disqualified Qualified	Soil contaminated with explosive residue (P). Unexploded ordnance (P).	Pending future use determination and ultimate Record of Decision (ROD)
31D-HR(P)X (Burning/Detonation Area) (40 acres)	Burning Ground	Disqualified	Probable soil contaminated with explosive residue.	RCRA Interim Status Closure Plan (1994)
	Open Burning and Detonation Area	Disqualified Qualified	Probable soil contaminated with explosive residue. Unexploded ordnance.	Part of RCRA Interim Status Closure Plan (1994)
32D-HR/X(P) (39 acres)	Old Burning Ground/Detonation Landfill Coordinates: 155, 9	Disqualified Qualified	Soil contaminated with TNT, pesticides, and PCBs. Unexploded ordnance (P).	Unexploded ordnance survey. Staging of movable objects. Detonation of blow-in-place items.
33D-HR/P (63 acres)	Old Demolition Ground Area	Disqualified Qualified	Soil contaminated with TNT. Unexploded ordnance (P).	Unexploded ordnance survey. Staging of movable objects. Detonation of blow-in-place items.
34D-HR(P) (4 acres)	Unused 1 Missile Site Coordinates: 200.5, 64.5	Disqualified	Soil contaminated with hazardous materials (P).	Pending future use determination and ultimate Record of Decision (ROD)

Table 5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Site Name	Address	Site Status	CERCLIS ID	Activity Type	Description of Activity	Lead Paint?	Soil Contaminants	Record of Decision
35D-HR(P)/PR(P) (4 acres)	Bulletin Missile Testing Site Coordinates: 222.5, 56.5	Disqualified		Soil contaminated with petroleum and solvents (P).	Precence of buried rocket motors (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
34D-HR(P)/PR(P) (3 acres)	Pershing Missile Site Coordinates: 231.71 Gate 209	Disqualified		Soil contaminated with petroleum and solvents (P).	Aboveground storage tank	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
37D-HR(P)/PR(P) (6 acres)	Western Fuel Tanks Coordinates: 124, 25	Disqualified		Soil contaminated with lead (P).		RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
38Q-A/L(P) (2 acres)	Building 18 Coordinates: 25.5, 39	Qualified		Lead paint (P).		RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
38Q-A/L(P) (1 acre)	Building 1 Coordinates: 30, 57	Qualified		Lead paint (P).	Asbestos	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
40Q-L(P) (1 acre)	Building 48 Coordinates: 29, 54	Qualified		Lead Paint (P).		RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
41Q-A(P)/L(P) (3 acres)	Buildings 43 and 79 Coordinates: 29, 49	Qualified		Lead Paint (P).	Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
42Q-A(P)/L(P) (2 acres)	Building 23 Coordinates: 31, 48.5	Qualified		Lead paint (P).	Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
43Q-A(P)/L(P) (1 acre)	Building 10 Coordinates: 32, 53	Qualified		Lead paint (P).	Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
44Q-A/L (5 acres)	Administrative and Residential Building Coordinates: 32, 58	Qualified		Lead paint.	Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
45Q-A/L (1 acre)	Building 17 Coordinates: 34, 58	Qualified		Lead paint.	Asbestos.			
45Q-A/L (7 acres)	Buildings 30, 31, 33 and 51 Coordinates: 36, 54	Qualified		Lead paint.	Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	

5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

ACTIVITY NUMBER (S122)	ACTIVITY LOCATION	CATEGORY	BASIS	ROD/FS NUMBER	VALIDATION
47Q-A/L (4 acres)	Buildings 541 and 542 Coordinates: 44.5, 48.5	Qualified	Lead paint. Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
48Q-A/L (5 acres)	Building 509, 510, 511, 512, 514, 515 and 522 Coordinates: 46, 53	Qualified	Lead paint. Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
49Q-A(P)/L(P) (1 acre)	Building 529 Coordinates: 49, 51	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
50Q-A(P)/L(P) (2 acres)	Building 527 Coordinates: 56, 56	Qualified	Lead paint (P). Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
51Q-A(P)/L(P) (1 acre)	Building 529 Coordinates: 55, 59	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
52Q-A(P)/L(P) (2 acres)	Buildings 510, 516 and 520 Coordinates: 54, 62, 5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
53Q-L(P) (2 acres)	Building 216 and 217 Coordinates: 46.5, 30	Qualified	Lead paint (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
54Q-A(P)/L(P) (1 acre)	Building 316 Coordinates: 68, 46	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
55Q-A(P)/L(P) (6 acres)	Building 312 Coordinates: 68.5, 49	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
56Q-A(P)/L(P) (2 acres)	Building 301 Coordinates: 67, 55, 5	Qualified	Lead paint (P). Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
57Q-A(P)/L(P) (2 acres)	Building 302 Coordinates: 66, 58, 5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
58Q-A(T)/L(P) (3 acres)	Building 303 Coordinates: 64.5, 61.5	Qualified	Lead paint (P). Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)

Table 5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

ACTIVITY NUMBER	ACTIVITY LOCATION	CATEGORY	FASS	ROD/FS TO A NYMPHA	DETERMINATION
6Q-A/1/07 (3 acres)	Building 304 Coordinates: 63.5, 64.5	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
6Q-A/1/07 (6 acres)	Building 305 Coordinates: 62.5, 67.9	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
61Q-L/P (2 acres)	Buildings 60 and 67 Coordinates: 36.5, 67	Qualified	Lead paint (P).	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
62Q-A/P/L/P (4 acres)	Building 46, 52 and 53 (Radio Towers) Coordinates: 41.5, 67.5	Qualified	Lead paint (P). Asbestos (P).	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
63Q-A/1/07 (3 acres)	Building 306 Coordinates: 48.5, 72.5	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
64Q-A/1/07 (2 acres)	Building 307 Coordinates: 48.73, 5	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
65Q-A/1/07 (2 acres)	Building 308 Coordinates: 47.78, 5	Qualified	Lead paint (P).	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
66Q-A/1/07 (2 acres)	Building 309 Coordinates: 47.81, 5	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
67Q-A/1/07 (4 acres)	Building 310 Coordinates: 44.5, 81.5	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
68Q-A/1/07 (2 acres)	Building 311 Coordinates: 41.5, 81	Qualified	Lead paint (P). Asbestos.	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
69Q-A/P/L/P (1 acres)	Building 103 Coordinates: 63, 77	Qualified	Lead paint (P). Asbestos (P).	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)
70Q-A/P/L/P (2 acres)	Buildings 106 and 110 Coordinates: 66.5, 79	Qualified	Lead paint (P). Asbestos (P).	R/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)

5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Site Description	Area Acreage	Area Revision	Category	Area	Source/Type/Location	Disposition
71Q-A(P)/L(P) (1 acre)	Building 340 Coordinates: 88, 76	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
72Q-A(P)/L(P) (2 acres)	Building 116 Coordinates: 75, 73.5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
73Q-A(P)/L(P) (2 acres)	Building 410 Coordinates: 84, 34.5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
74Q-A(P)/L(P) (1 acre)	Building 401 Coordinates: 86, 32	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
75Q-A(P)/L(P) (7 acres)	Buildings 406 and 411 Coordinates: 89, 31.5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
76Q-A(P)/L(P) (4 acres)	Building 412 Coordinates: 91.5, 29.5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
77Q-A(P)/L(P) (5 acres)	Buildings 407 and 413 Coordinates: 94, 27.5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
78Q-A(P)/L(P) (8 acres)	Buildings 409, 414, and 415 Coordinates: 121.5, 32.5	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
79Q-A(P)/L(P) (1 acre)	Building 601 Coordinates: 137, 24	Qualified	Lead paint (P). Asbestos (P).	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
80Q-X (0.21 acre)	Demolition Kickout Area Coordinates: 172, 20 Size: 700 acres	Qualified	Unexploded ordnance.	RCRA Interim Status Closure Plan (1994)	Unexploded ordnance survey. Staging of movable objects. Detonation of blow-in-place items.	
81Q-A/L(P) (1 acre)	Buildings 40 and 41 Coordinates: 29, 56	Qualified	Lead Paint (P). Asbestos.	RI/FS (1994)	Pending future use determination and ultimate Record of Decision (ROD)	
82P (800 acres)	Coordinates: 10, 20	CERFA Permit	No issues.			

Table 5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

PARCEL NUMBER	DESCRIPTIVE LOCATION	CATEGORY	EXS.	RESULTS OF FIELD SURVEY
83P (634 acres)	Coordinates: 50, 6	CERFA Parcel	No Issues.	
84P (667 acres)	Coordinates: 36, 40	CERFA Parcel	No Issues.	
85P (146 acres)	Coordinates: 74, 30	CERFA Parcel	No Issues.	
86P (543 acres)	Coordinates: 90, 10	CERFA Parcel	No Issues.	
87P (518 acres)	Coordinates: 130, 10	CERFA Parcel	No Issues.	
88P (242 acres)	Coordinates: 135, 25	CERFA Parcel	No Issues.	
89P (163 acres)	Coordinates: 130, 45	CERFA Parcel	No Issues.	
90P (314 acres)	Coordinates: 110, 22	CERFA Parcel	No Issues.	
91P (206 acres)	Coordinates: 95, 34	CERFA Parcel	No Issues.	
92P (128 acres)	Coordinates: 100, 30	CERFA Parcel	No Issues.	
93P (339 acres)	Coordinates: 75, 44	CERFA Parcel	No Issues.	
94P (633 acres)	Coordinates: 30, 60	CERFA Parcel	No Issues.	
95P (739 acres)	Coordinates: 30, 100	CERFA Parcel	No Issues.	
96P (566 acres)	Coordinates: 50, 70	CERFA Parcel	No Issues.	
97P (173 acres)	Coordinates: 70, 60	CERFA Parcel	No Issues.	
98P (100 acres)	Coordinates: 85, 70	CERFA Parcel	No Issues.	

5.1-1
Fort Wingate Depot Activity Site (FWDA)
Gallup, New Mexico

Parcel Category	Parcel Description	CERFA Status	CERFA Category	Location
99P (779 acres)	Coordinates: 75, 80	CERFA Parcel	No Issues.	
100P (1267 acres)	Coordinates: 100, 90	CERFA Parcel	No Issues.	
101P (480 acres)	Coordinates: 50, 115	CERFA Parcel	No Issues.	
102P (176 acres)	Coordinates: 145, 10	CERFA Parcel	No Issues.	
103P (189 acres)	Coordinates: 145, 25	CERFA Parcel	No Issues.	
104P (6935 acres)	Coordinates: 210, 40	CERFA Parcel	No Issues.	

Parcel Categories

D = CERFA Disqualified Parcel
 Q = CERFA Qualified Parcel
 E = CERFA Excluded Parcel
 P = CERFA Parcel

(P) - Possible

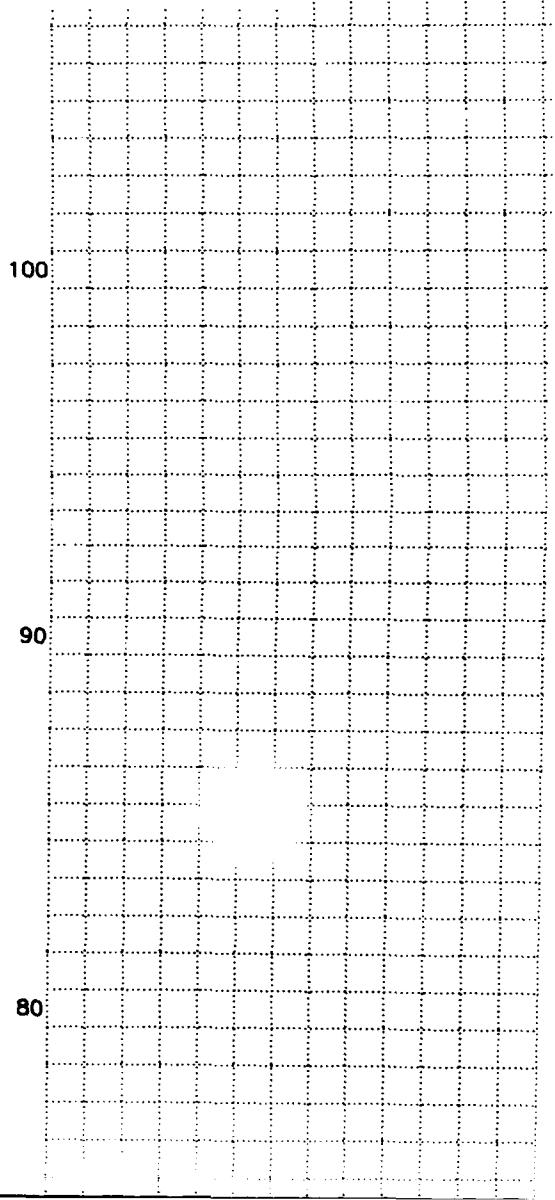
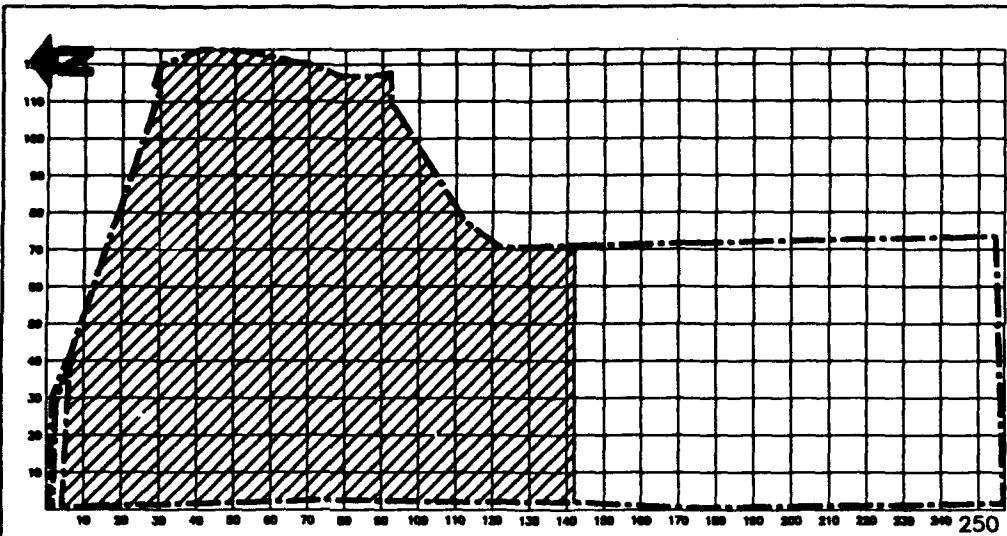
Dequalified Designations

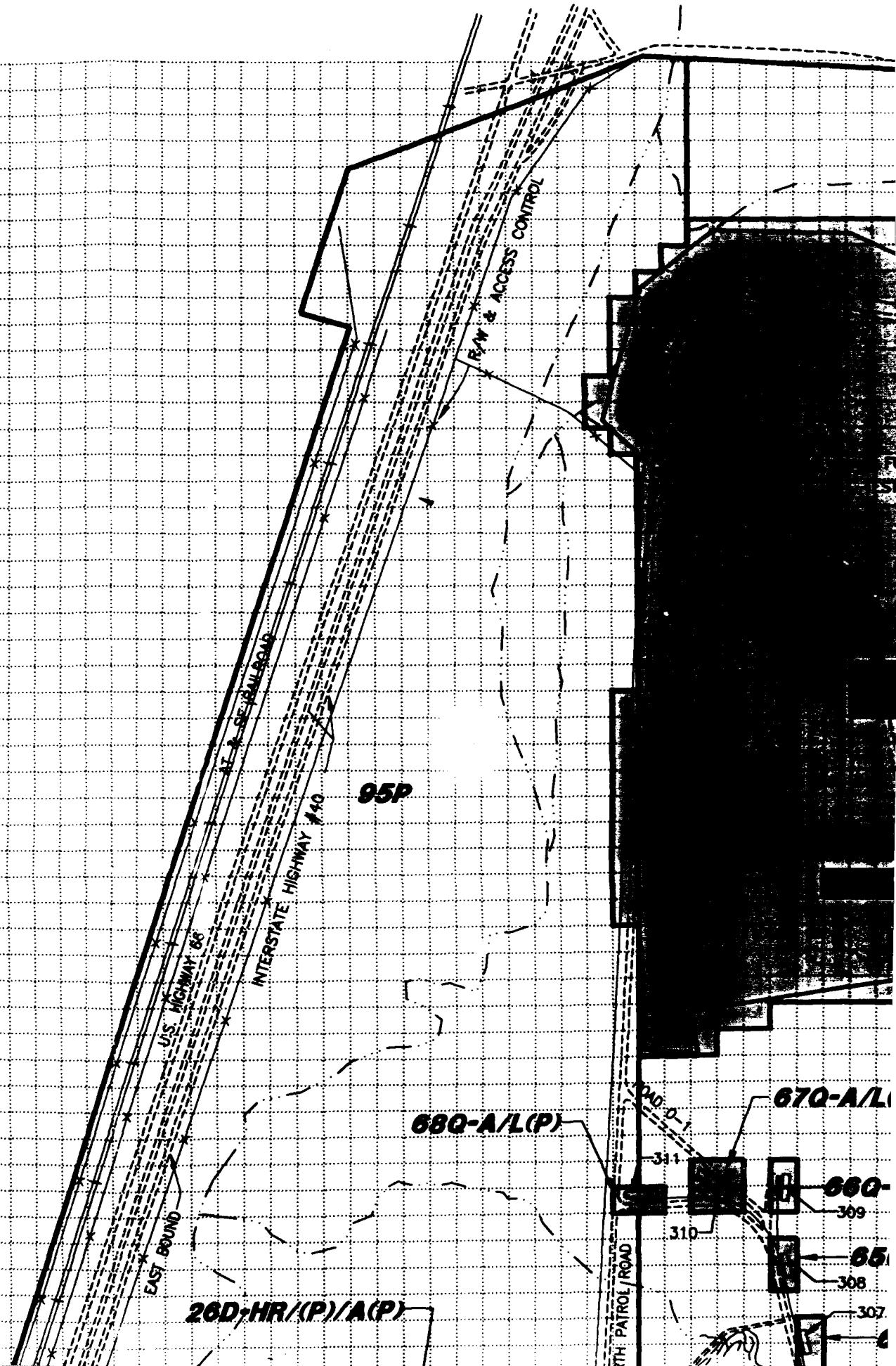
PS = Petroleum Storage
 PR = Petroleum Release/Disposal
 HS = Hazardous Materials Storage
 HR = Hazardous Materials Release/Disposal

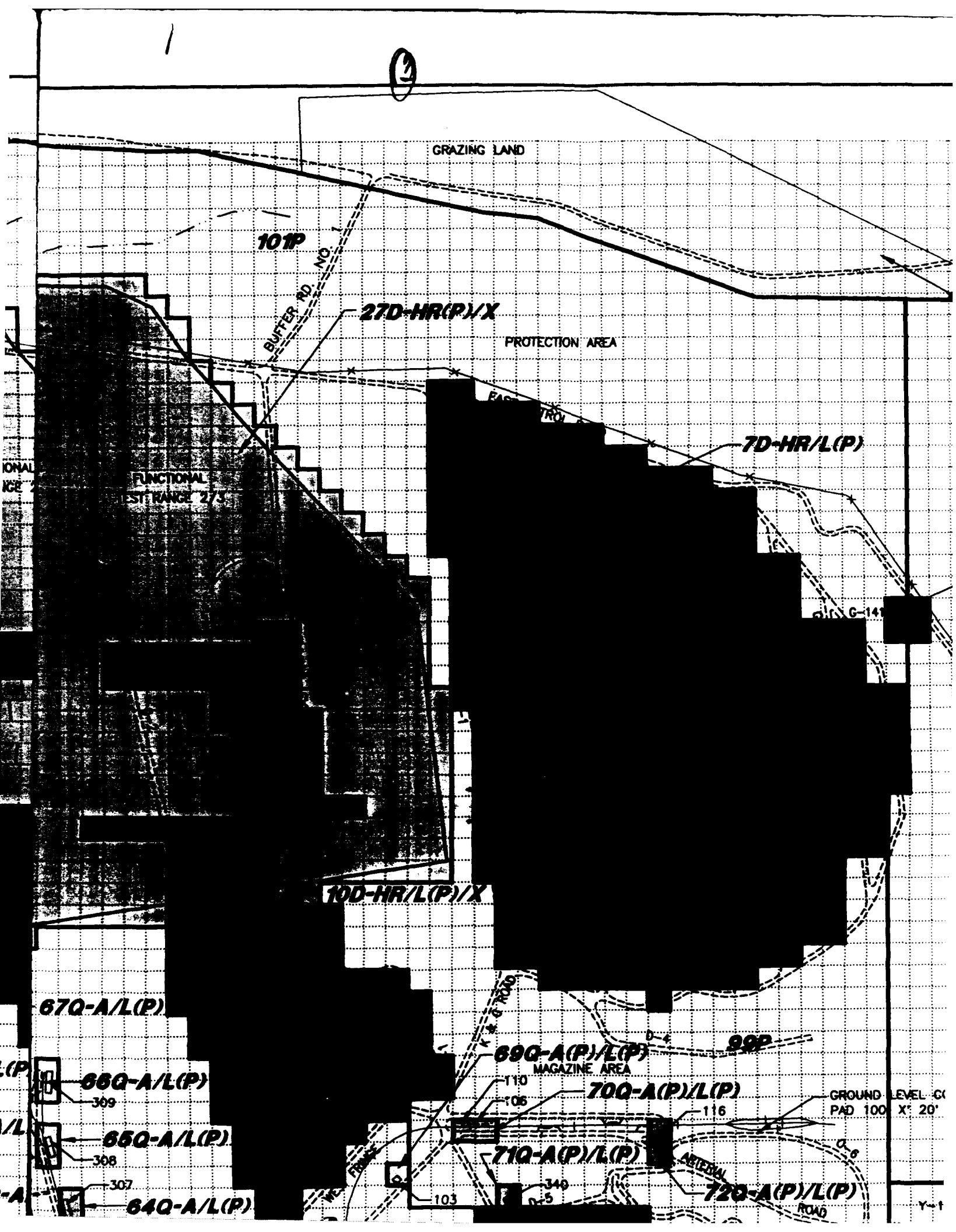
(P) - Possible

Qualified Designations

A = Asbestos
 L = Lead-Based Paint
 P = PCBs (Polychlorinated biphenyls)
 R = Radon
 X = UXO (unexploded ordnance)
 RD = Radionuclides







(P)

FORT
WINGATE
SCHOOL

PROTECTIVE AREA; UNDER
MEMORANDUM OF UNDERSTANDING
DATED 10 FEBRUARY 1959.

28D-HR

CIG-141

GRAZING LAND

100P

GROUND LEVEL CONCRETE
PAD 100' X 20'

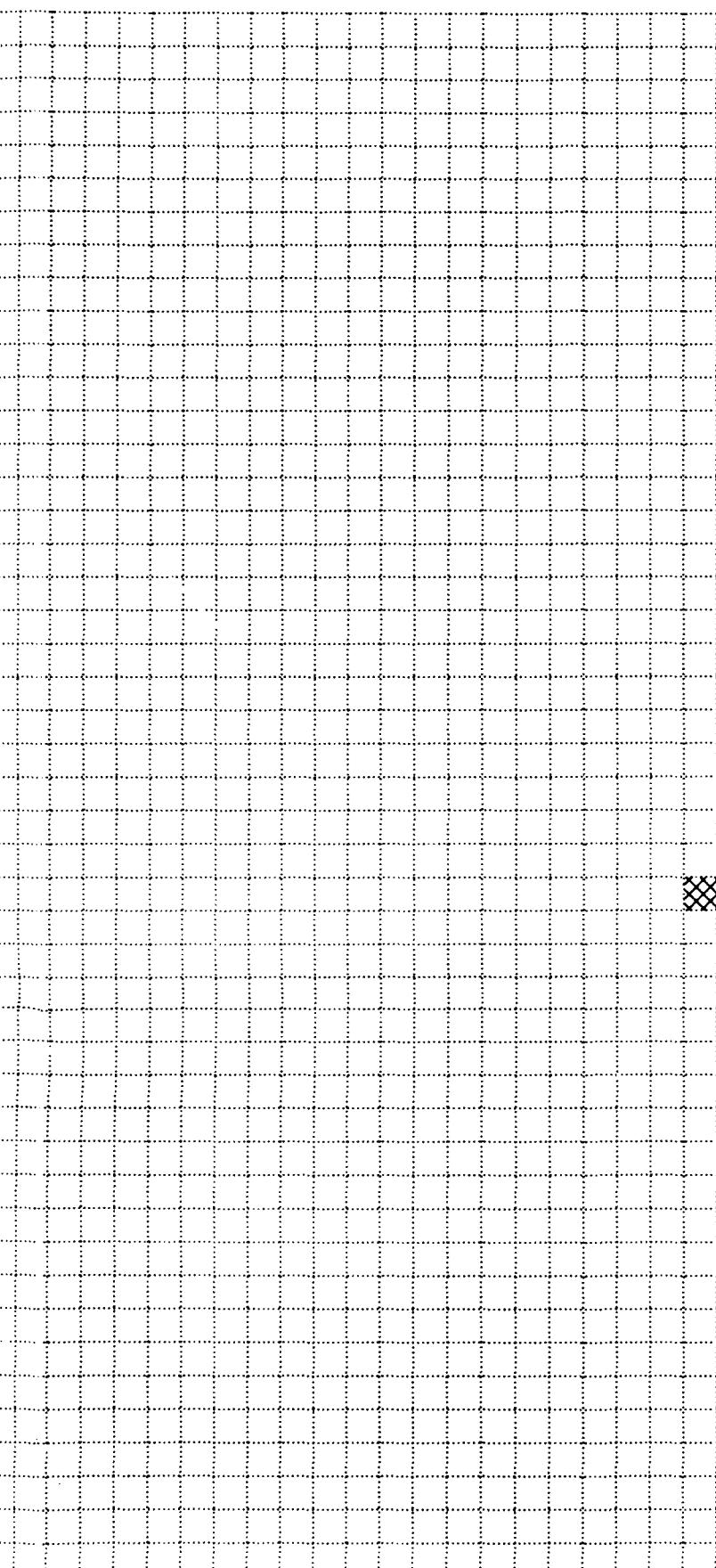
EAST PATROL ROAD

5D-HR/LP)

276

Y-12

(5)



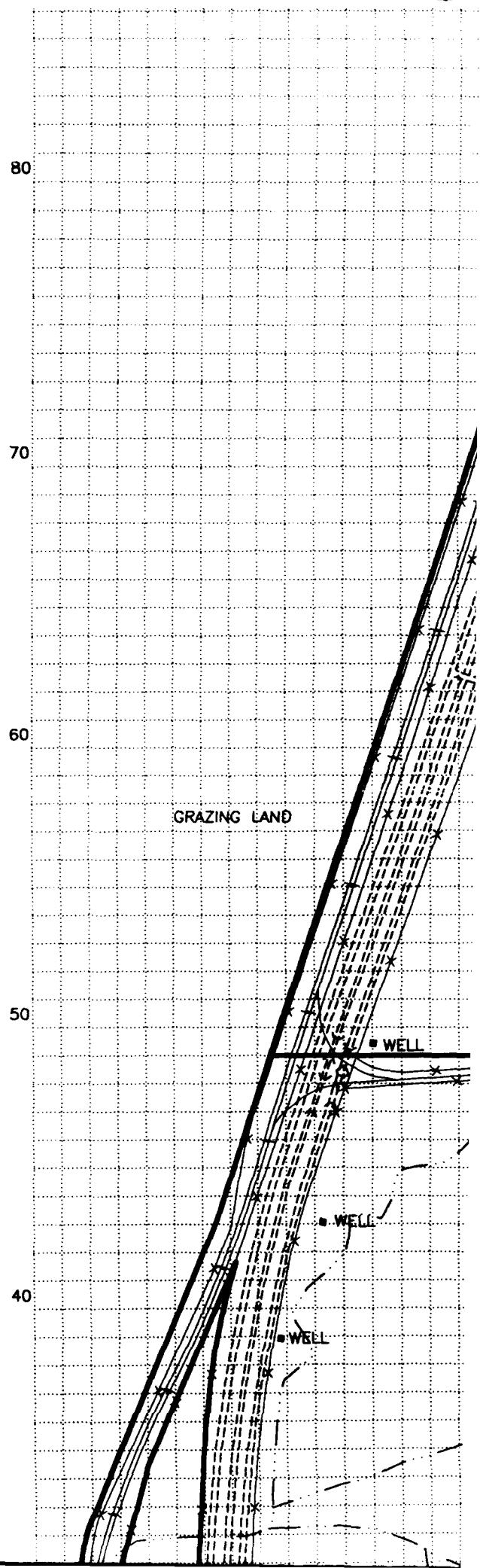
XXX ONE ACRE GRID SQUARE
XXX COORDINATE LOCATION: 98,142

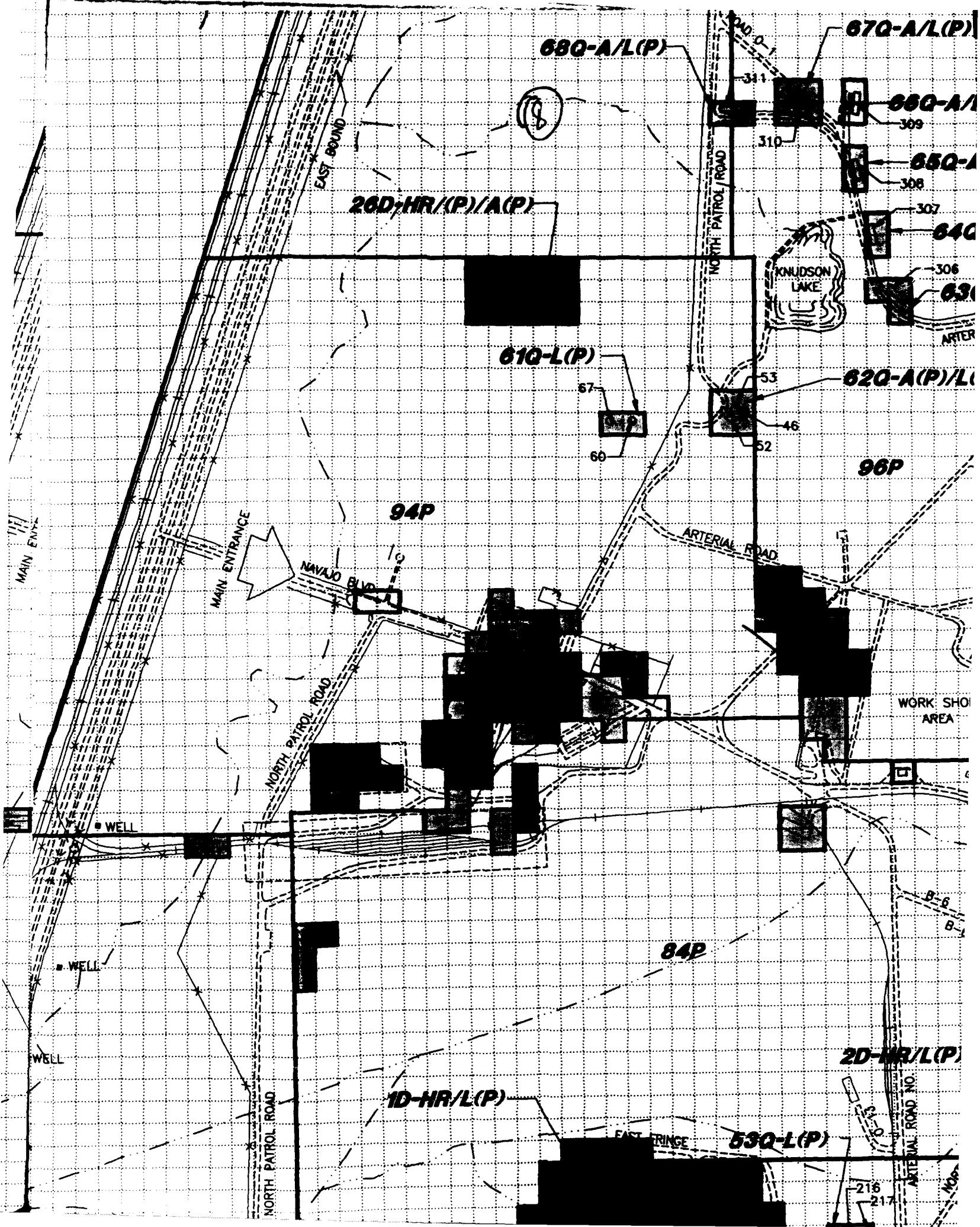
ND

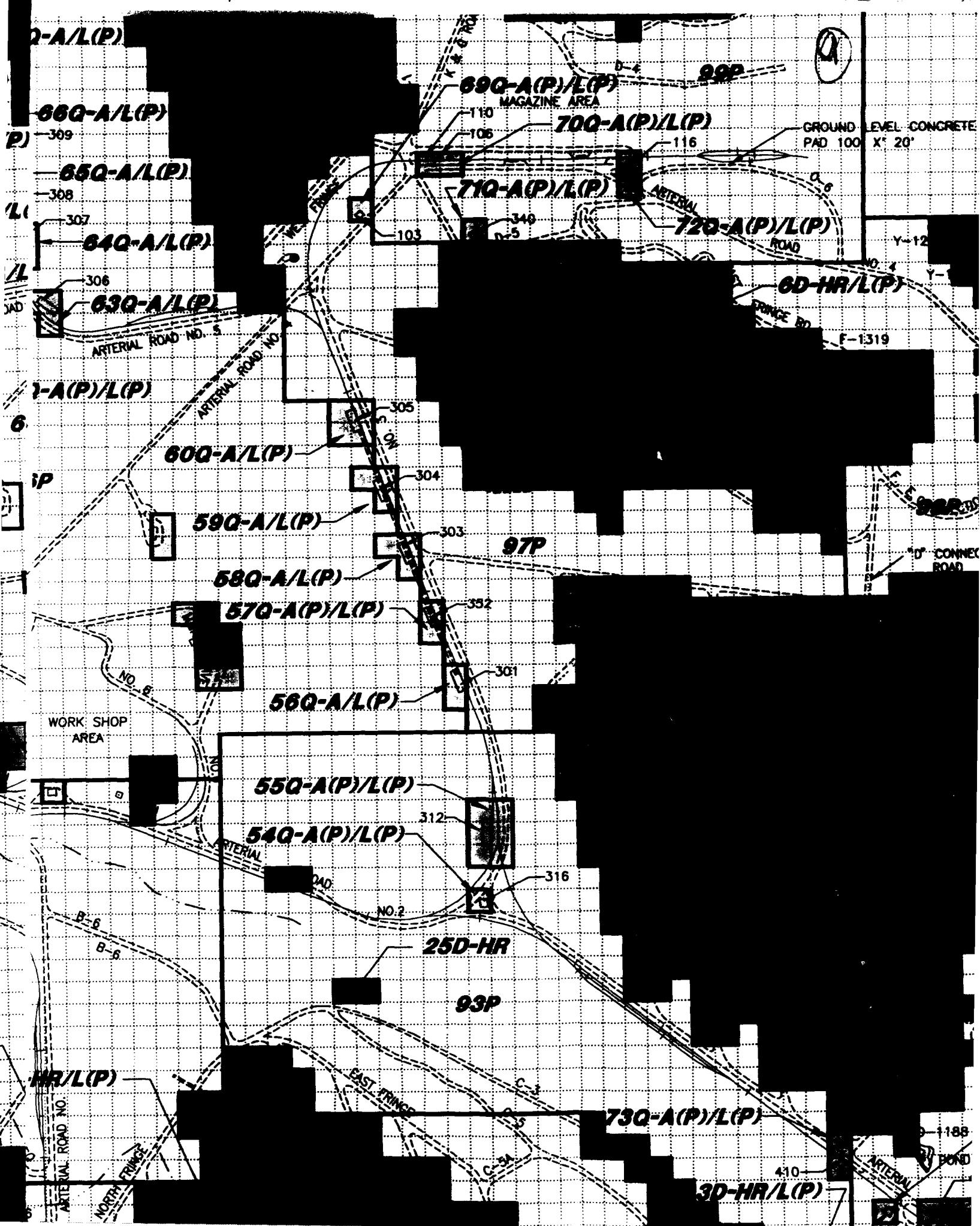
(e)

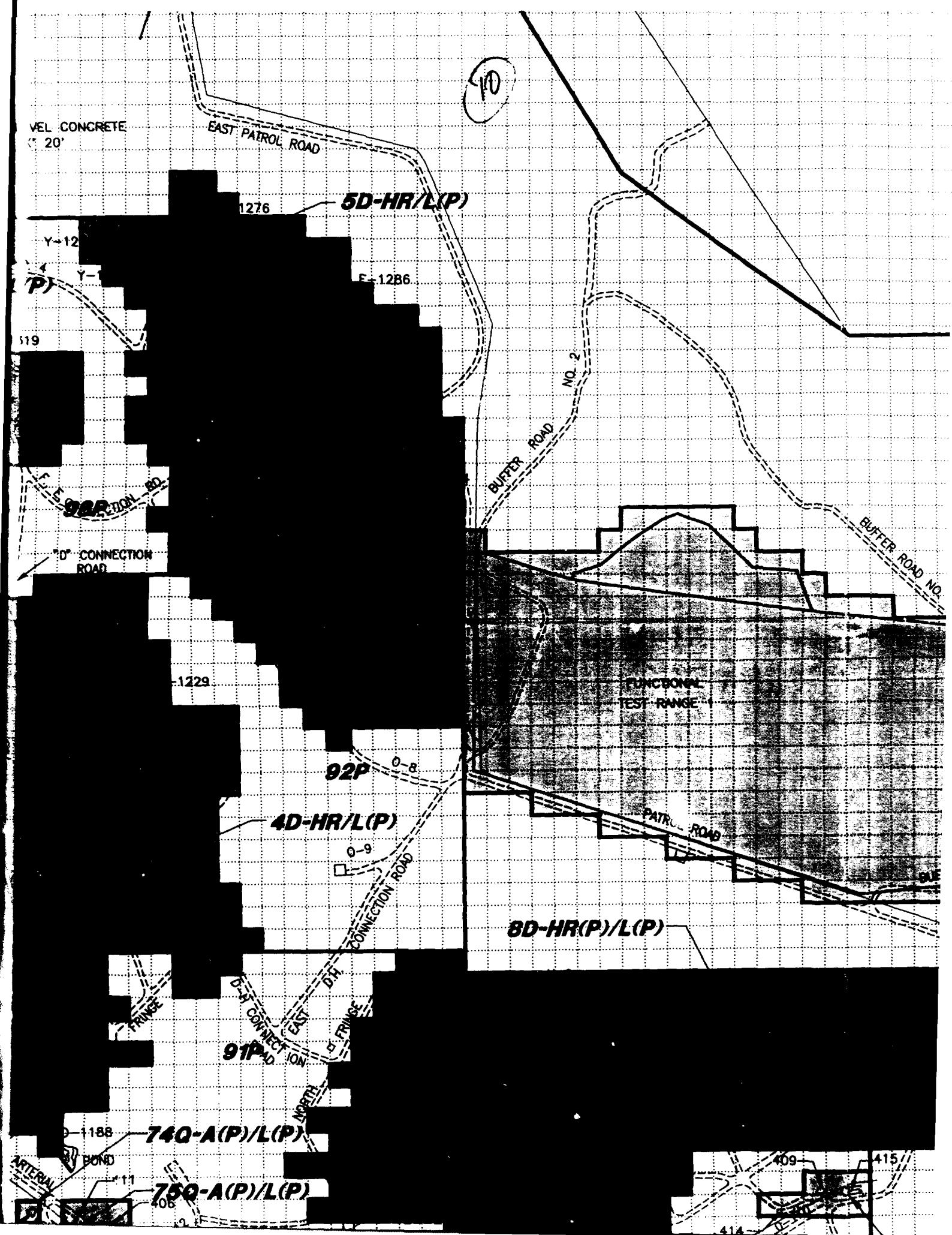
ACRE GRID SQUARE
DINATE LOCATION: 98,142

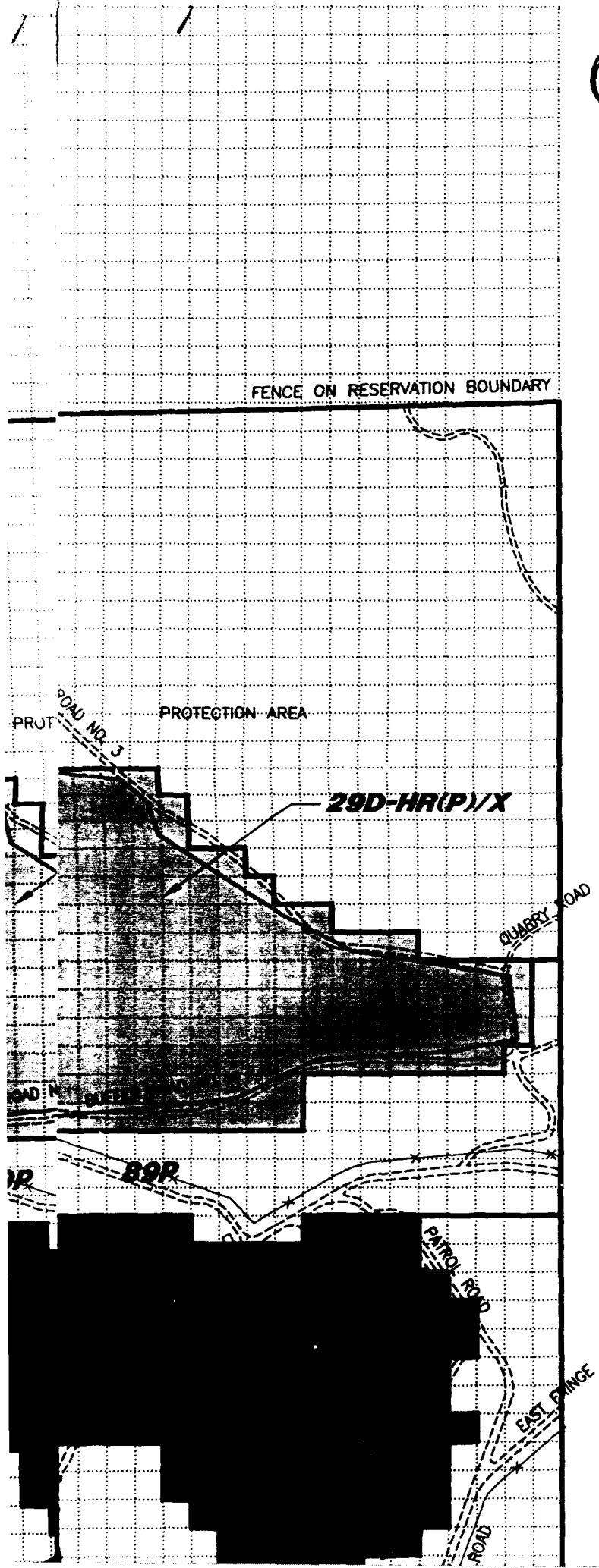
6











(11)

LEGEND:



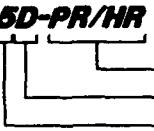
CERFA DISQUALIFIED

CERFA QUALIFIED

CERFA EXCLUDED

CERFA PARCEL

PARCEL LABEL



PARCEL DESIGNATION

PARCEL CATEGORY

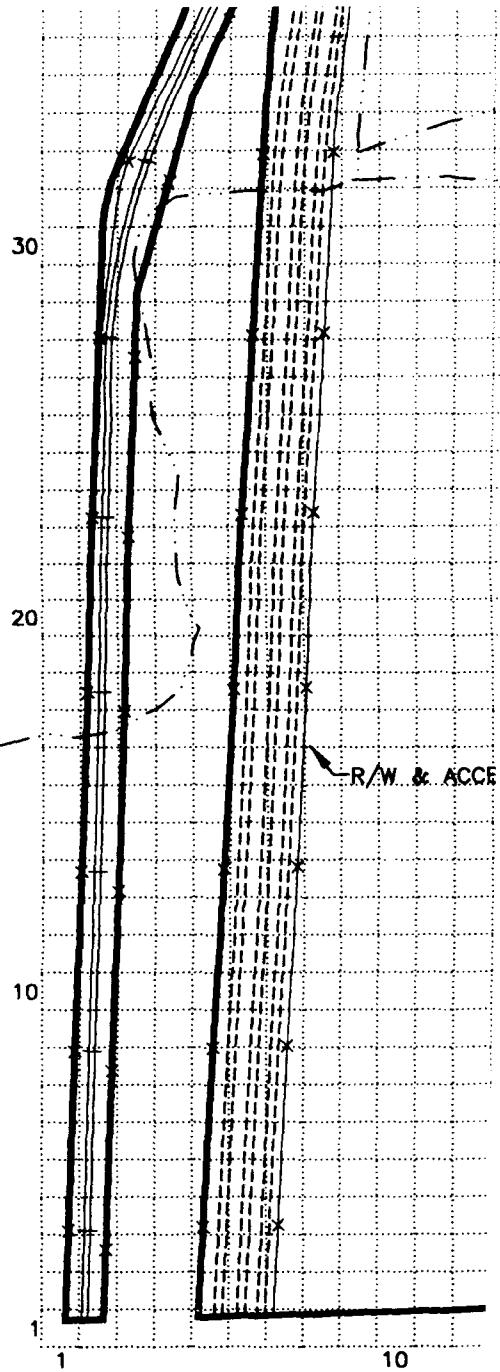
PARCEL NUMBER AS NOTED
ON DRAWING AND TABLE

PARCEL CATEGORY

D = CERFA DISQUALIFIED PARCEL
Q = CERFA QUALIFIED PARCEL
E = CERFA EXCLUDED PARCEL
P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

PS = PETROLEUM STORAGE



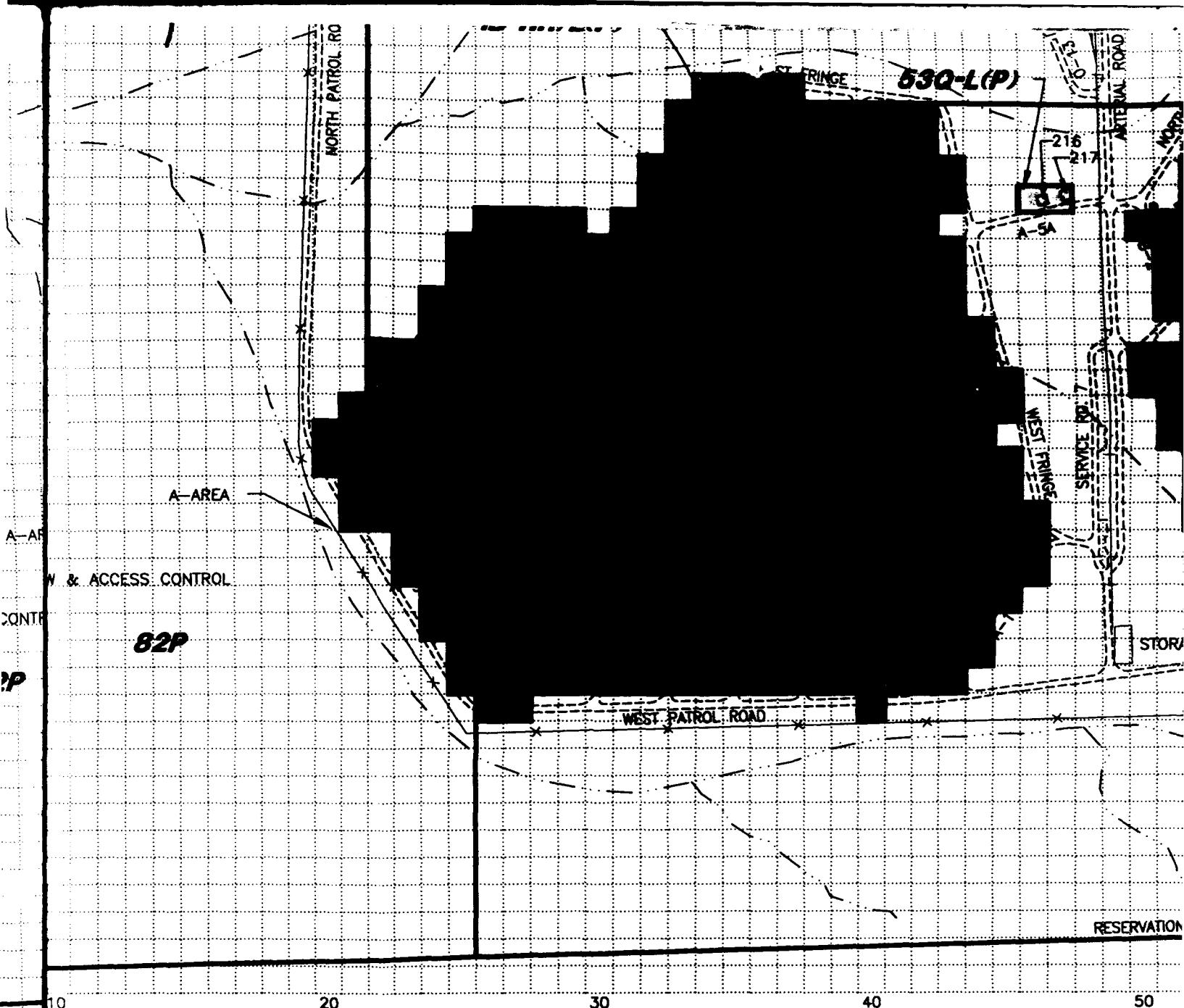
NOTES

1. BASE MAP SCANNED FROM FORT WINGATE DEPOT ACTIVITY GENERAL SITE MAP, JULY 1986, U.S. ARMY CORPS OF ENGINEERS.
2. FUNCTIONAL TEST RANGE AREAS BASED ON FORT WINGATE MILITARY RESERVATION DRAWINGS 13 MARCH 1993, UXB INTERNATIONAL, INC., CHANTILLY, VA.
3. 2 SOURCES OF MAPS OVERLAIN, ACTUAL DISTANCES APPROXIMATE FOR PRESENTATION PURPOSES.

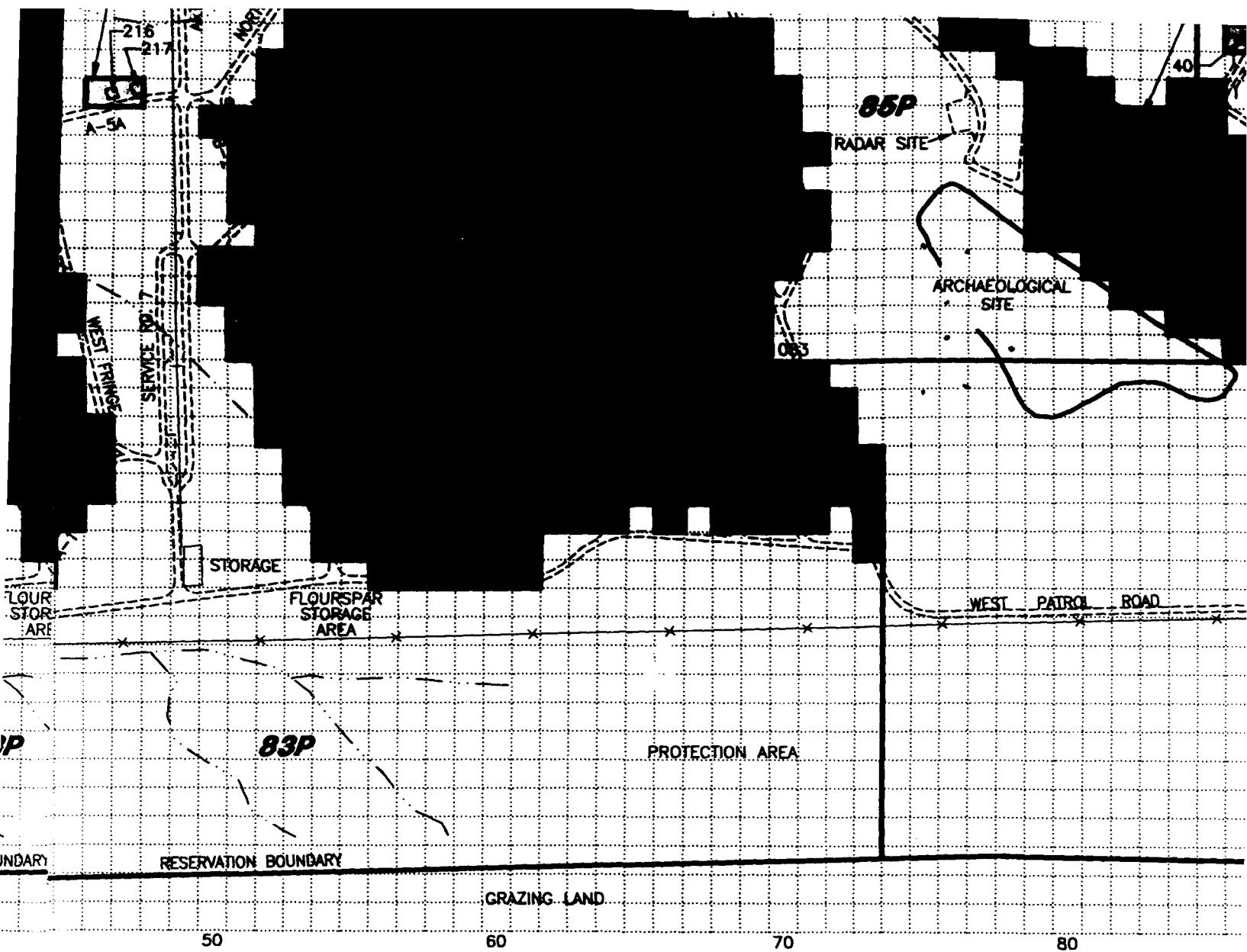


NO.	DATE	APPR.	REVISION

(12)



13



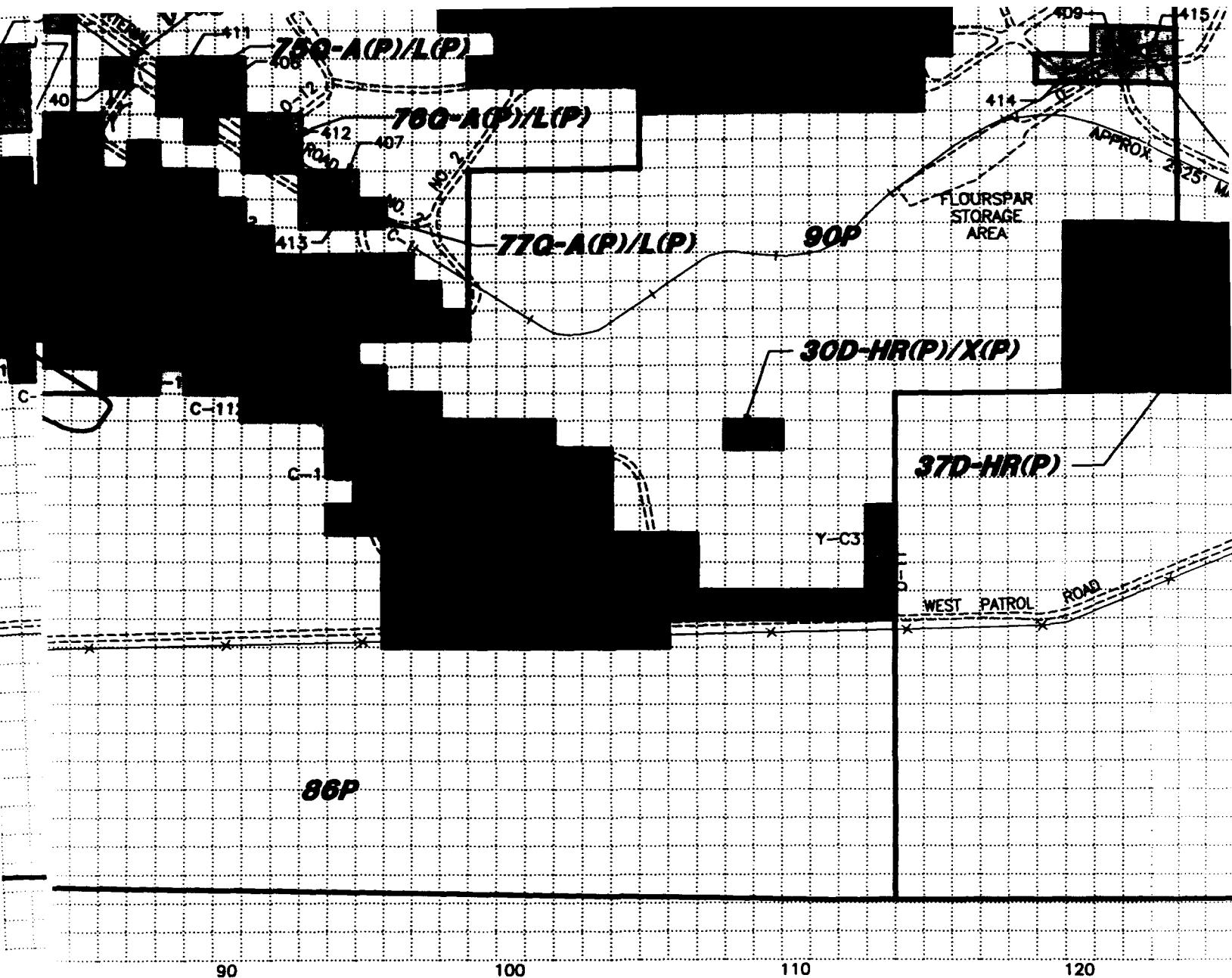
RE REVISION

Fort Wing

Gallup

Environmental Resour

Exton, Pennsylvania 19341 (215)



e D Wingate Depot Activity

New Mexico

B Mources Management, Inc.

24-35 (215) 524-3500



ERM

CHECKED	DATE
DESIGN ENGINEER	
PROJECT GEOLOGIST	
PROJECT MANAGER	
APPROVED	
APPROVED	

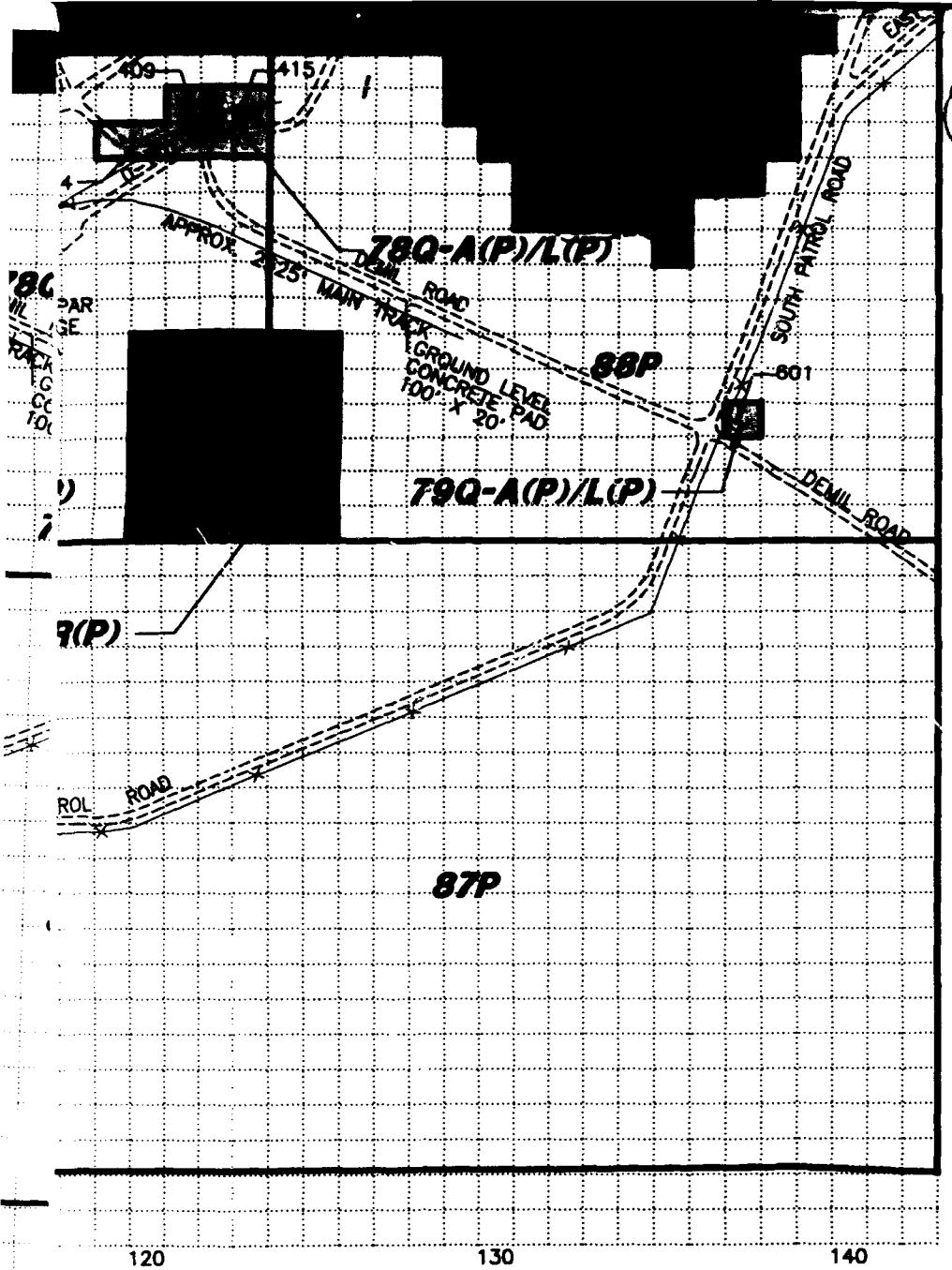
D = CERFA DISQUALIFIED
 Q = CERFA QUALIFIED
 E = CERFA EXCLUDED
 P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

PS = PETROLEUM STORE
 PR = PETROLEUM RELEASE
 HS = HAZARDOUS MATERIAL
 HR = HAZARDOUS MATERIAL

QUALIFIED DESIGNATIONS

A = ASBESTOS
 L = LEAD-BASED PAINT
 P = PCBs (POLYCHLORINATED)
 R = RADON
 X = UXO (UNEXPLDED)
 RD = RADIONUCLIDE



(P)

POSSIBLE DISQUALIFIER/QUALIFIED



NON-LEAKING UST OR AST (FORMER OR ACTIVE)



LEAKING UST OR AST (FORMER OR ACTIVE)

RELEASE OR DISPOSAL OF HAZARDOUS MATERIALS



BUILDING WITH CERFA QUAL IN A DISQUALIFIED PARCEL

1000 500 0 1000

Scale in Feet

	DATE	CERFA Category and Designation Map			
INVESTIGATOR					
LOGIST					
MANAGER					
	DRAWN M.K. Bond/CMP	DATE 12.11.93/04.10.94	CLIENT APPROVAL		
	SCALE 1" = 1000'	W.O. No. PM307.70.01/I401-1	ISSUED FOR	DATE	S

D = CERFA DISQUALIFIED PARCEL
 Q = CERFA QUALIFIED PARCEL
 E = CERFA EXCLUDED PARCEL
 P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

PS = PETROLEUM STORAGE
 PR = PETROLEUM RELEASE/DISPOSAL
 HS = HAZARDOUS MATERIALS STORAGE
 HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL

QUALIFIED DESIGNATIONS

A = ASBESTOS
 L = LEAD-BASED PAINT
 P = PCBs (POLYCHLORINATED BIPHENYLS)
 R = RADON
 X = UXO (UNEXPLODED ORDNANCE)
 RD = RADIONUCLIDE

(P) POSSIBLE DISQUALIFIER/QUALIFIER

○ NON-LEAKING UST OR AST
(FORMER OR ACTIVE)

● LEAKING UST OR AST
(FORMER OR ACTIVE)

----- RELEASE OR DISPOSAL OF PETROLEUM
OR HAZARDOUS MATERIALS

81 BUILDING WITH CERFA QUALIFIER(S)
IN A DISQUALIFIED PARCEL

1000 500 0 1000 2000

Scale in Feet

DRAWING NO.

Figure 5.1-1

Category and Designation Map

12.11.93/04.10.94

CLIENT APPROVAL

PM307.70.01/I401-1

ISSUED FOR

DATE

SHEET

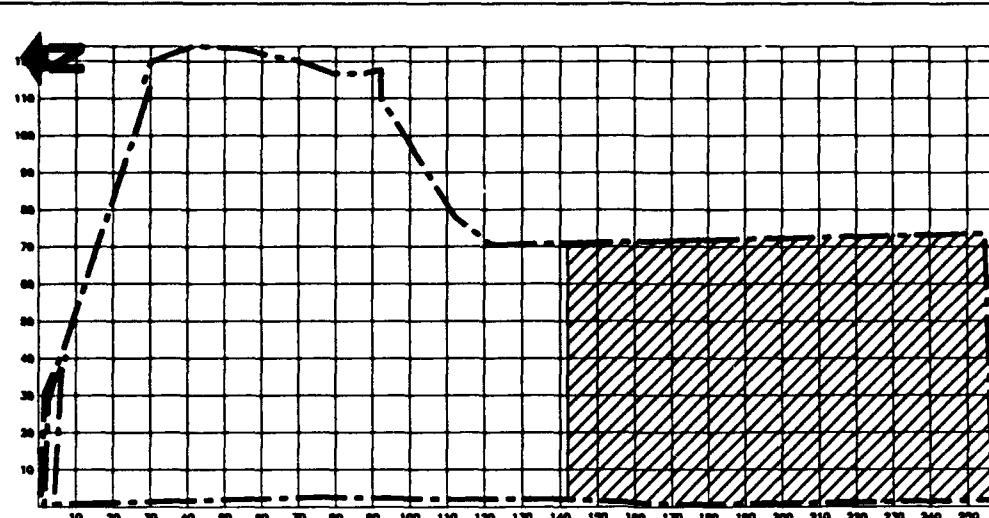
1

OF

4

REV. NO.

①



KEY MAP



1

CIBOLA NAT
GRAZIN

80

FENCE ON RESERVATION BOUNDARY

(3)

CIBOLA NATIONAL FOREST
GRAZING LAND

FOR
IND

ACCESS ROAD
FROM STATE
HIGHWAY 400

GATE

(H)

36D-HR(P)/PR(P)

EAST BOUNDARY ROAD

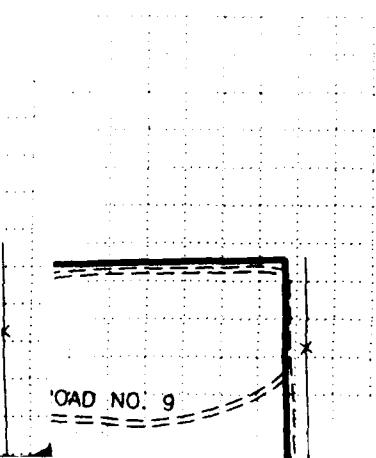
EA

PERSHING
MISSILE SITE

LAKE Mc FERREN

WOODLAND ROAD NO. 9

(5)



OAD NO. 9

80

70

60

50

x

40

30

80

FENCE ON RESERVATION BOUNDARY

70

104P

60

QUARRY ROAD

MISSILE MSR NO. 2

50

X

FAST FRINGE

40

ROAD NO. 5

9D-HR/L(P)

WEST FRINGE

31D-HI

30

WEST FRINGE

ACCESS ROAD
FROM STATE
HIGHWAY 400

GATE

34D-HR(P)

UNUSED
MISSILE
SITE

35D-HR(P)/PR(P)

LAUNCH F

MISSILE MSR ROAD NO. 2

MISSILE MSR NO. 1

WOODLAND ROAD NO. 1

WOODLAND ROAD NO. 6

31D-HR(P)/X

80Q-X

36D-HR(P)/PR(P)

EAST BOUNDARY ROAD

PERSHING
MISSILE SITE

LAKE Mc FERREN

WOODLAND ROAD NO. 9

PICNIC AREA

RECREATIONAL AREA

HR(P)/PR(P)

MISSILE MSR NO.

LAUNCH ROAD NO. 1

BMT LAUNCH
PAD

104P

WOODLAND NO. 8

WOODLAND ROAD NO.

WOODLAND AREA

WOODLAND ROAD NO. 2

NO. 2A

CIBOLA NATIONAL FOREST
GRAZING LAND

SOUTH BOUNDARY ROAD

RESERVATION BOUNDARY

LEGEND:



CERFA DISQUALIFIED

CERFA QUALIFIED

CERFA EXCLUDED

CERFA PARCEL

PARCEL LABEL



PARCEL DESIGNATION

PARCEL CATEGORY

PARCEL NUMBER AS NOTED
ON DRAWING AND TABLE

PARCEL CATEGORY

30

20

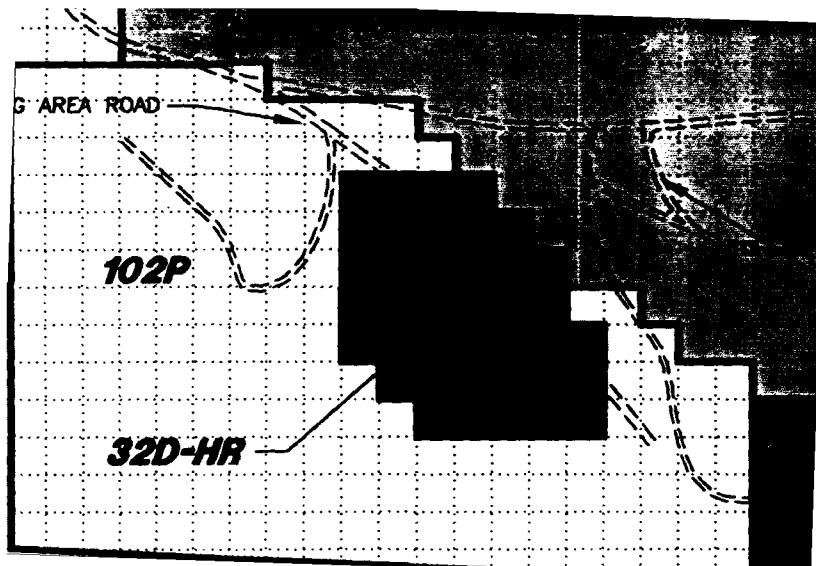
BURNIN

10

NOTES

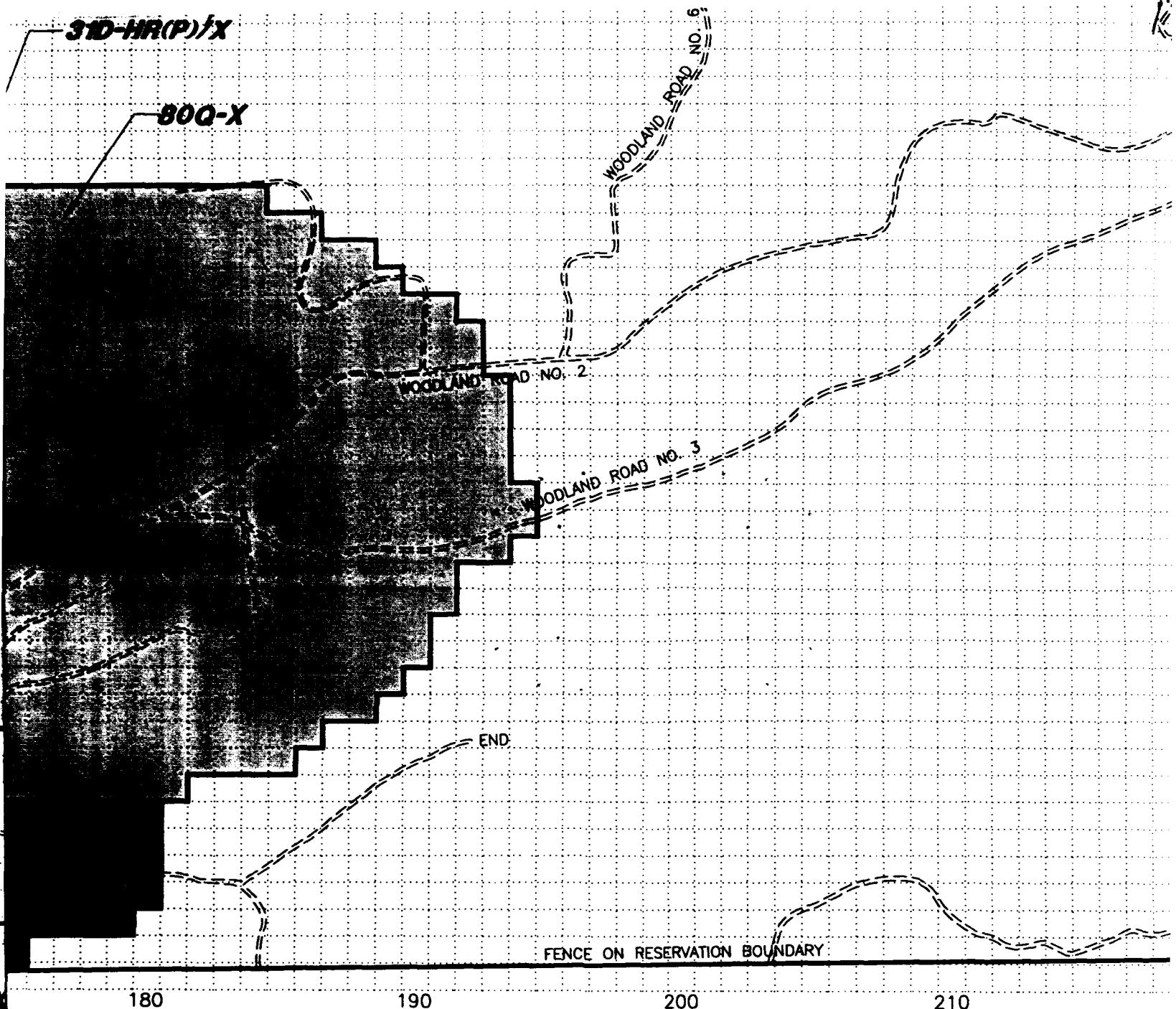
1. BASE MAP SCANNED FROM FORT WINGATE DEPOT ACTIVITY GENERAL SITE MAP, JULY 1986, U.S. ARMY CORPS OF ENGINEERS.
 2. FUNCTIONAL TEST RANGE AREAS BASED ON FORT WINGATE MILITARY RESERVATION DRAWINGS 13 MARCH 1993, UXB INTERNATIONAL, INC., CHANTILLY, VA.
 3. 2 SOURCES OF MAPS OVERLAIN, ACTUAL DISTANCES APPROXIMATE FOR PRESENTATION PURPOSES.





33D-HR(P)/X

800-X



33D-HR/X(P)

INDIAN ALLOCATE

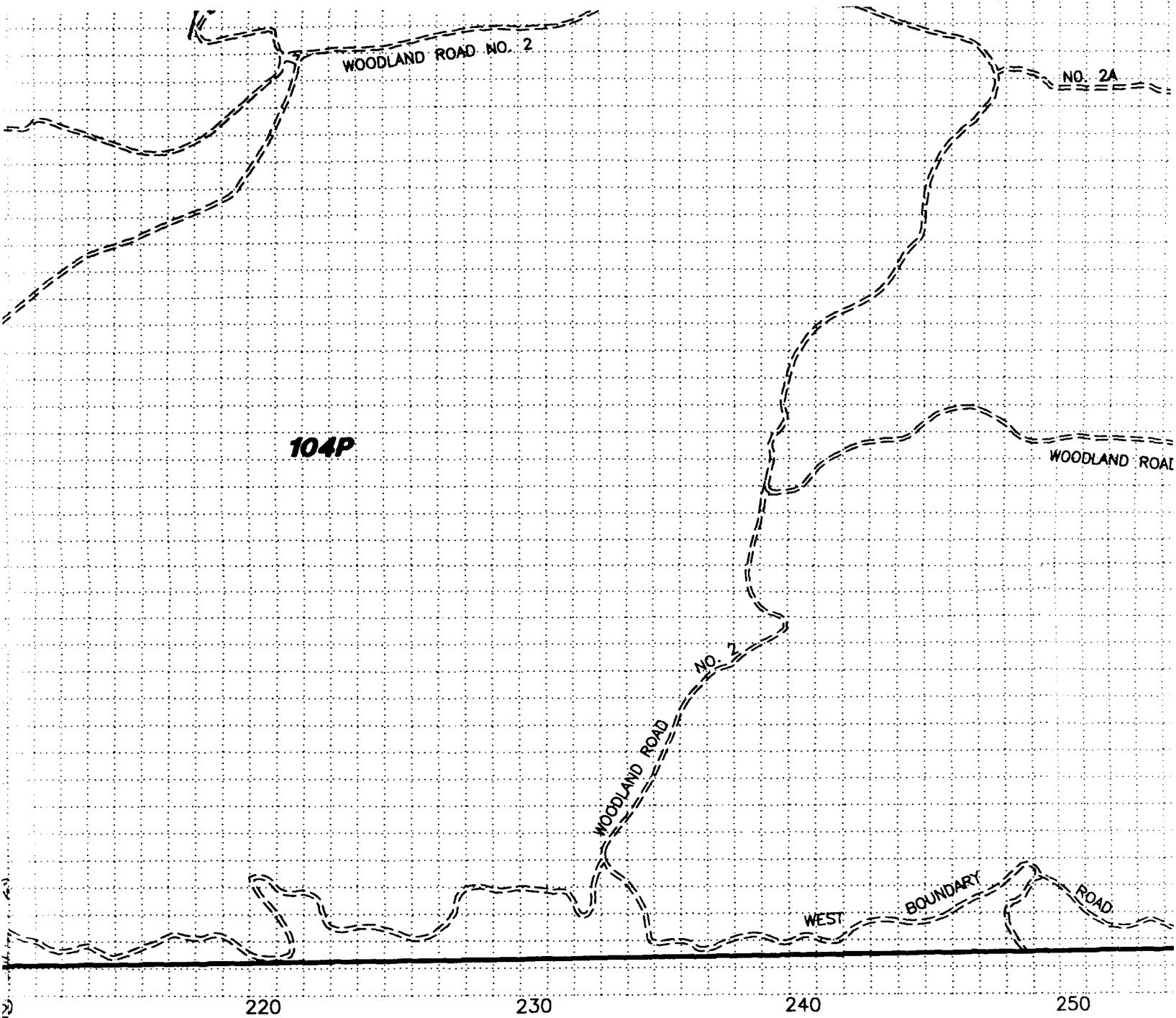
REVISION

Fort Wingate Depot

Gallup

Environmental Resources Manag

Exton, Pennsylvania 19341 (215) 524-3500



Wingate Depot Activity

New Mexico

sources Management, Inc.

(215) 524-3500



CHECKED	DATE
DESIGN ENGINEER	
PROJECT GEOLOGIST	
PROJECT MANAGER	
APPROVED	
APPROVED	

DRA

SCA

PARCEL LABEL

5D-PR/HR

PARCEL DESIGNATION

PARCEL CATEGORY

PARCEL NUMBER AS NO
ON DRAWING AND TABLPARCEL CATEGORY

D = CERFA DISQUALIF
 Q = CERFA QUALIFIED
 E = CERFA EXCLUDED
 P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

PS = PETROLEUM ST
 PR = PETROLEUM RE
 HS = HAZARDOUS MA
 HR = HAZARDOUS MA

QUALIFIED DESIGNATIONS

A = ASBESTOS
 L = LEAD-BASED PAINT
 P = PCBs (POLYCHLORINATED)
 R = RADON
 X = UXO (UNEXPLODED)
 RD = RADIONUCLIDE

(P)

POSSIBLE DISQUALIFIER/Q

NON-LEAKING UST OR AST
(FORMER OR ACTIVE)LEAKING UST OR AST
(FORMER OR ACTIVE)RELEASE OR DISPOSAL OF
HAZARDOUS MATERIALSBUILDING WITH CERFA QL
IN A DISQUALIFIED PARCEL

250

1000 500 0 1000

Scale in Feet

SUPERVISOR	DATE	
SPN ENGINEER		
SPCT GEOLOGIST		
SPCT MANAGER		

CERFA Category and Designation Map

OWNER	DRAWN BY	M.K. Bond/CMP	DATE	12.13.93/04.09.94	CLIENT APPROVAL
OWNER	SCALE	1" = 1000'	W.O. No.	PM307.70.01/1402-1	ISSUED FOR DATE

PARCEL DESIGNATION
PARCEL CATEGORY
PARCEL NUMBER AS NOTED
ON DRAWING AND TABLE

PARCEL CATEGORY

D = CERFA DISQUALIFIED PARCEL
Q = CERFA QUALIFIED PARCEL
E = CERFA EXCLUDED PARCEL
P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

PS = PETROLEUM STORAGE
PR = PETROLEUM RELEASE/DISPOSAL
HS = HAZARDOUS MATERIALS STORAGE
HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL

QUALIFIED DESIGNATIONS

A = ASBESTOS
L = LEAD-BASED PAINT
P = PCBs (POLYCHLORINATED BIPHENYLS)
R = RADON
X = UXO (UNEXPLODED ORDNANCE)
RD = RADIONUCLIDE

(P) POSSIBLE DISQUALIFIER/QUALIFIER

 NON-LEAKING UST OR AST
(FORMER OR ACTIVE)

 LEAKING UST OR AST
(FORMER OR ACTIVE)

— — — — RELEASE OR DISPOSAL OF PETROLEUM
OR HAZARDOUS MATERIALS

 81 BUILDING WITH CERFA QUALIFIER(S)
IN A DISQUALIFIED PARCEL

1000 500 0 1000 2000

Scale in Feet

DRAWING NO.

Figure 5.1-1

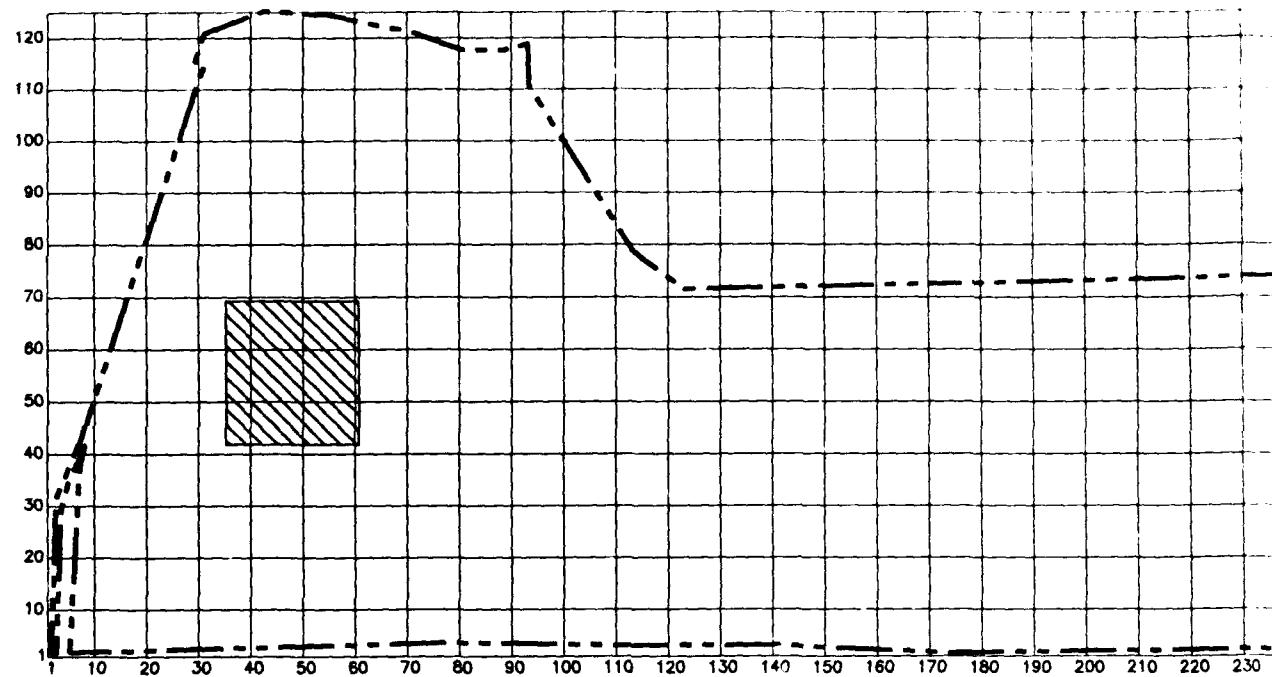
REV. NO.

Category and Designation Map

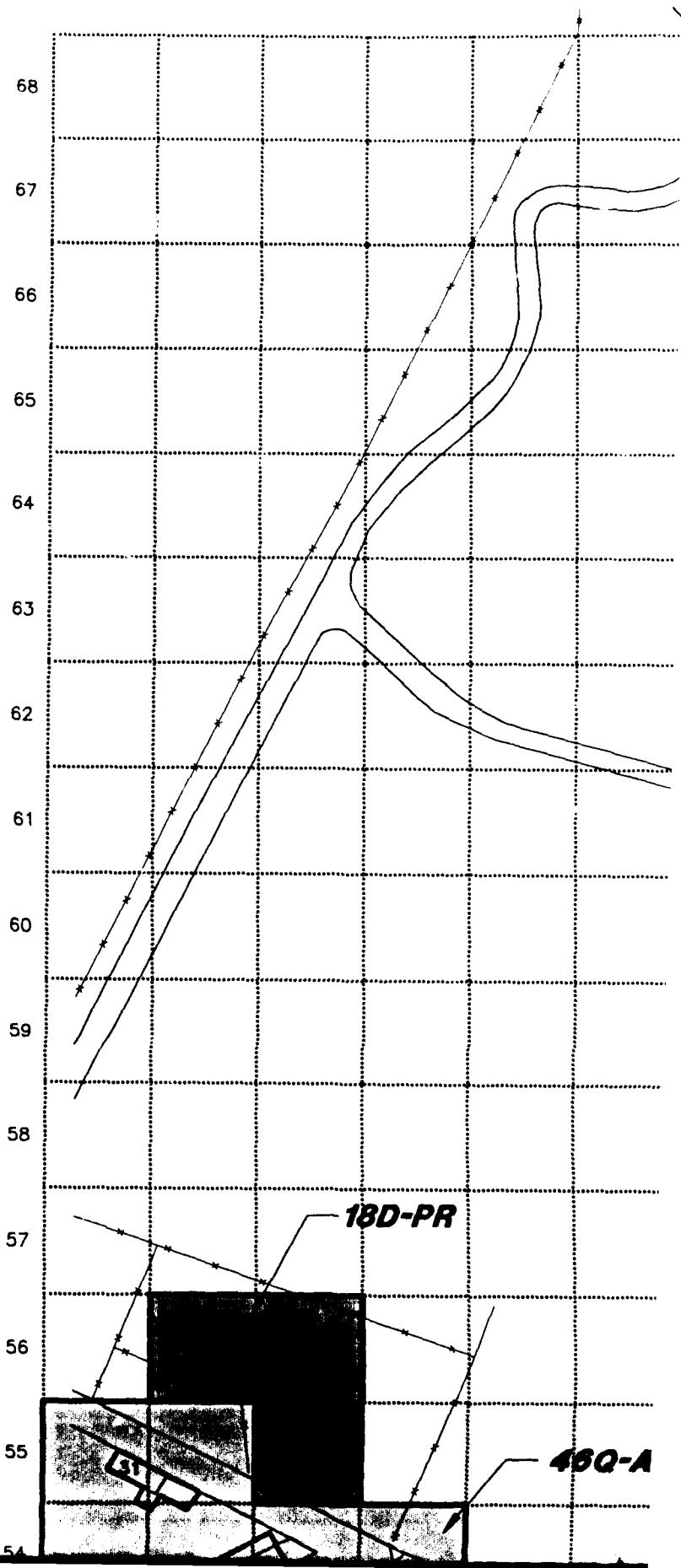
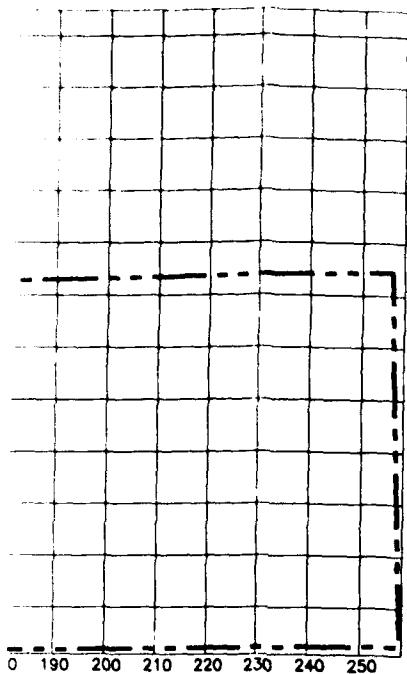
DATE 12.13.93/04.09.94	CLIENT APPROVAL			
W.O. No. PM307.70.01/I402-1	ISSUED FOR	DATE	SHEET 2	OF 4

(1)

Z



(2)



(3)

19D-HS/HR/A/L/P(P)

ARTERIAL ROAD

SERVICE ROAD

23D-1

46Q-A/L

ARTERIAL RD.

A/L(P)

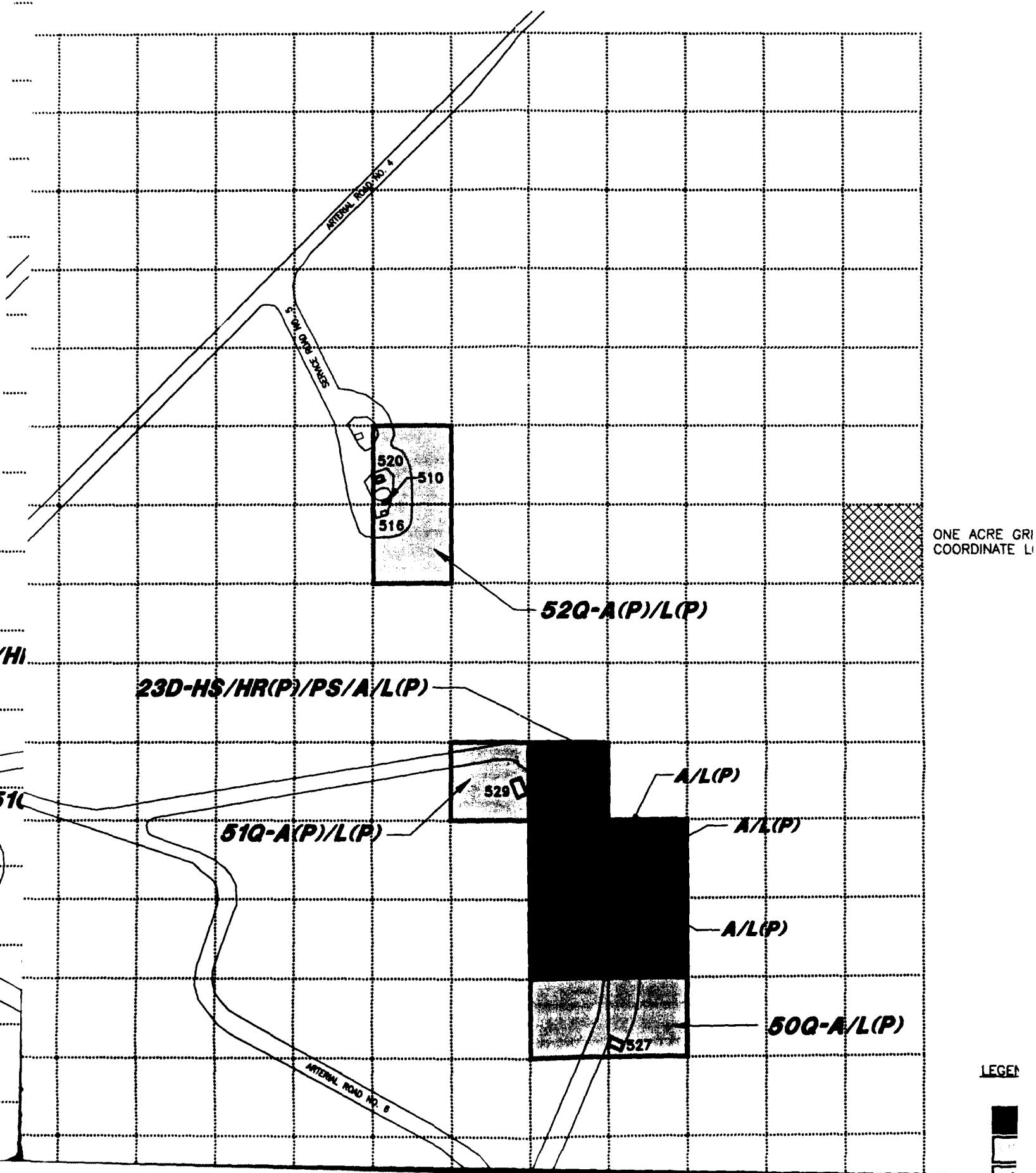
522

515
D

20D-HS/HR/A

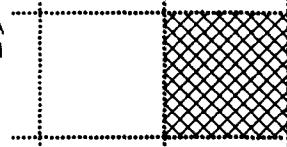
A

(4)



(5)

QUA



ONE ACRE GRID SQUARE
COORDINATE LOCATION: 62,60

V/L(P)

L(P)

- 50Q-A/L(P)

LEGEND:

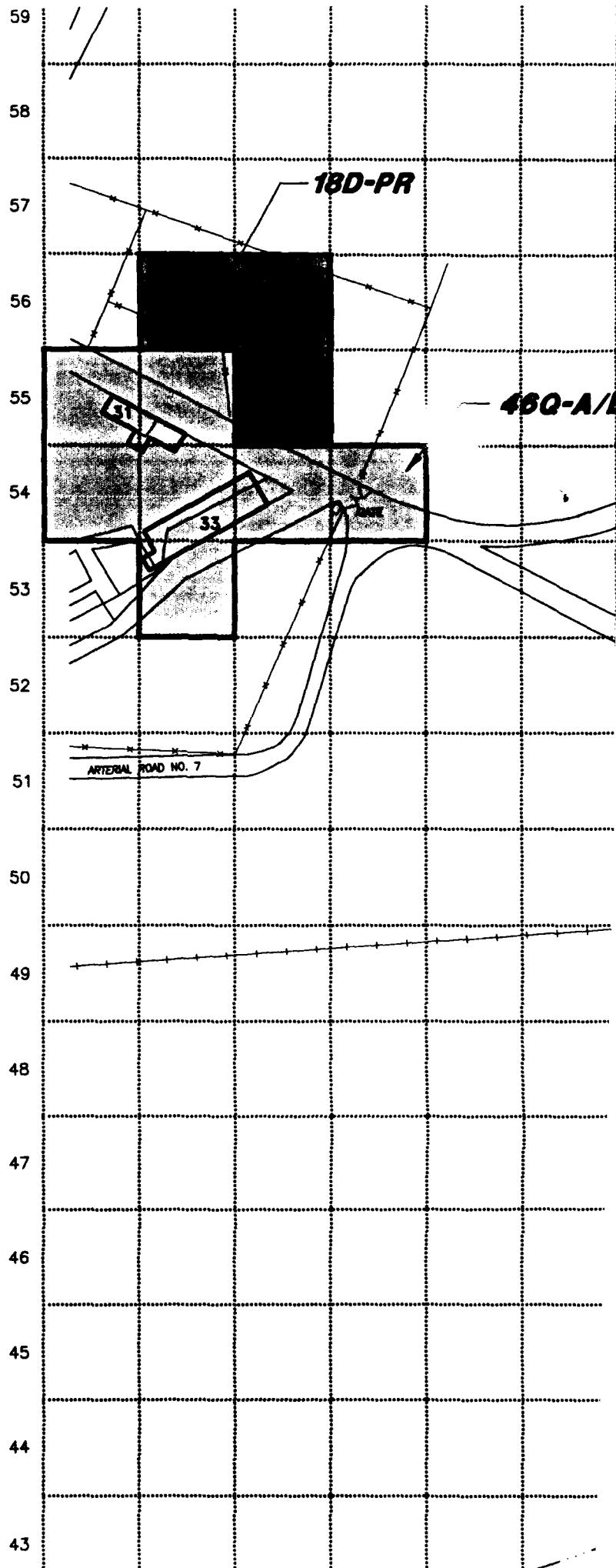


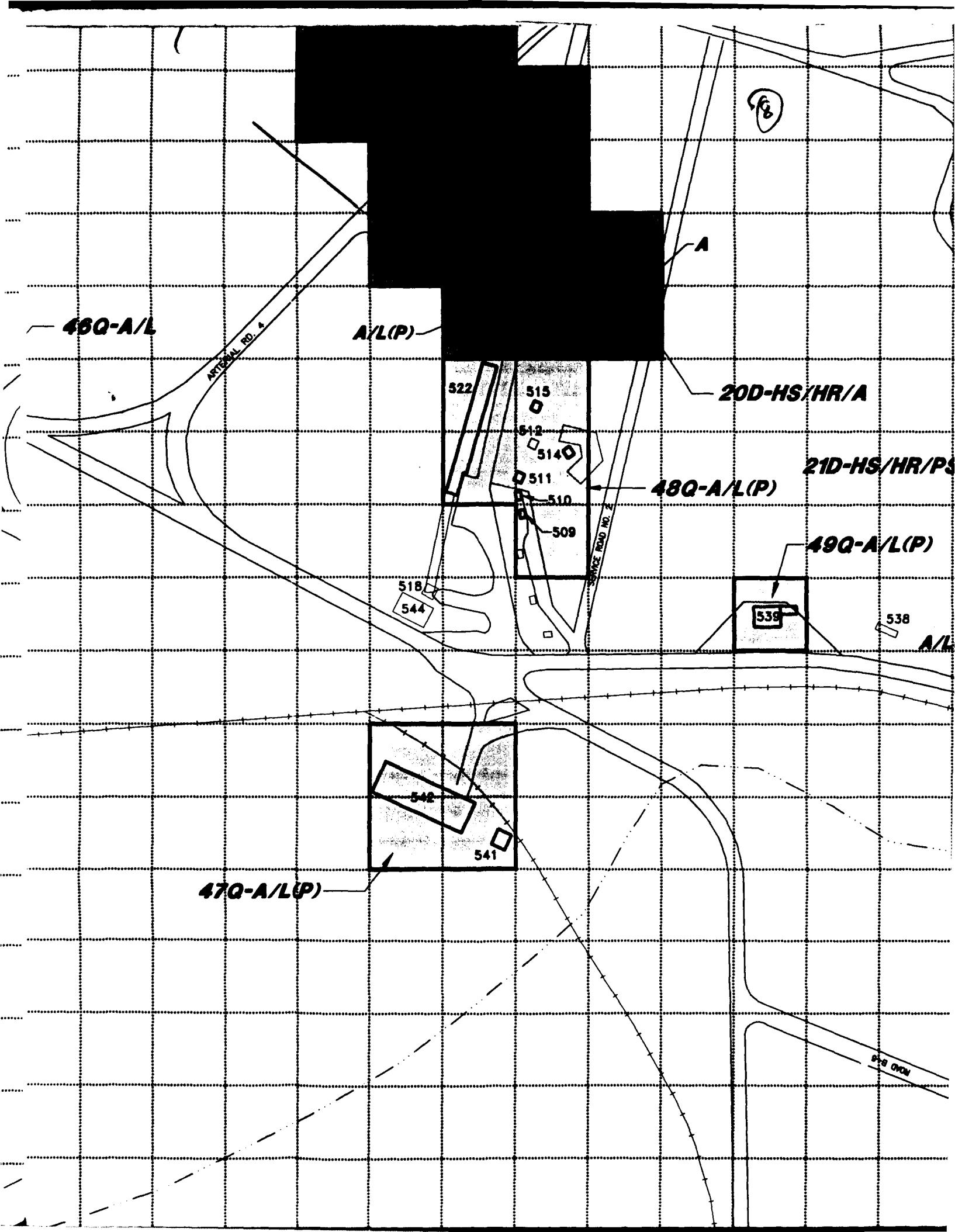
CERFA DISQUALIFIED

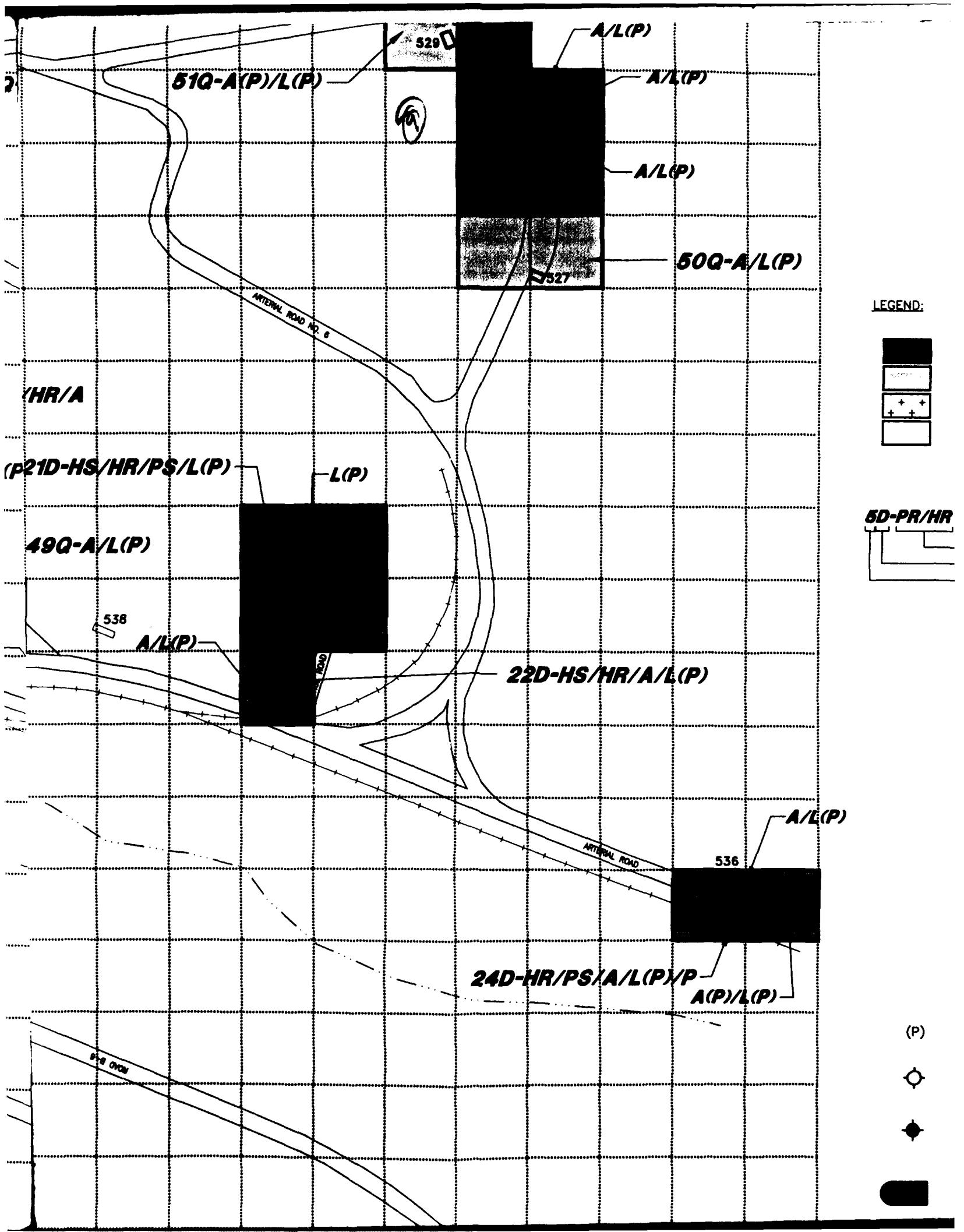
CERFA QUALIFIED

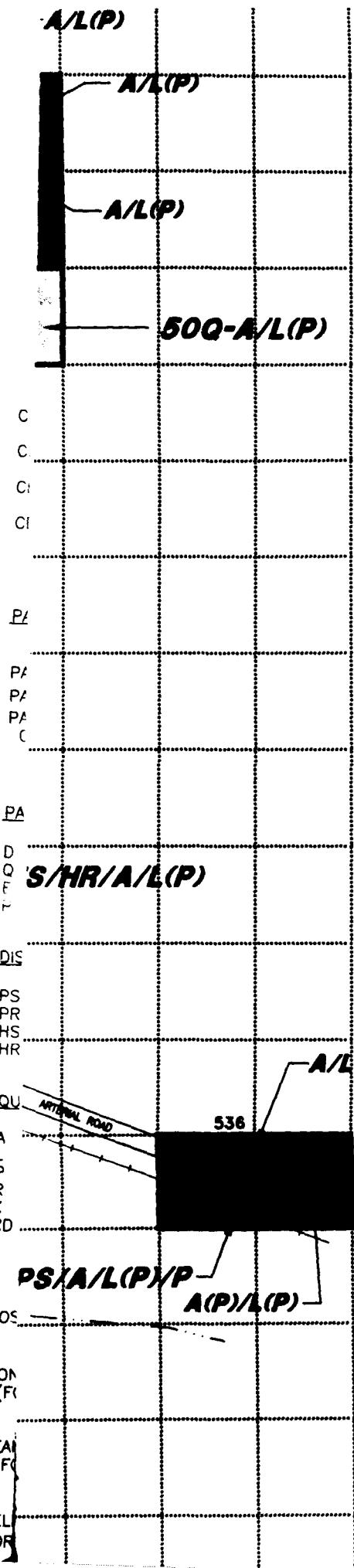
(b)











LEGEND:



- CERFA DISQUALIFIED
- CERFA QUALIFIED
- CERFA EXCLUDED
- CERFA PARCEL

PARCEL LABEL



- PARCEL DESIGNATION
- PARCEL CATEGORY
- PARCEL NUMBER AS NOTED ON DRAWING AND TABLE

PARCEL CATEGORY

- D = CERFA DISQUALIFIED PARCEL
- Q = CERFA QUALIFIED PARCEL
- E = CERFA EXCLUDED PARCEL
- P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

- PS = PETROLEUM STORAGE
- PR = PETROLEUM RELEASE/DISPOSAL
- HS = HAZARDOUS MATERIALS STORAGE
- HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL

QUALIFIED DESIGNATIONS

- A = ASBESTOS
- L = LEAD-BASED PAINT
- P = PCBs (POLYCHLORINATED BIPHENYLS)
- R = RADON
- X = UXO (UNEXPLODED ORDNANCE)
- RD = RADIONUCLIDE

(P) POSSIBLE DISQUALIFIER/QUALIFIER

○ NON-LEAKING UST OR AST
(FORMER OR ACTIVE)

● LEAKING UST OR AST
(FORMER OR ACTIVE)

RELEASE OR DISPOSAL OF PETROLEUM
OR HAZARDOUS MATERIALS

(10)

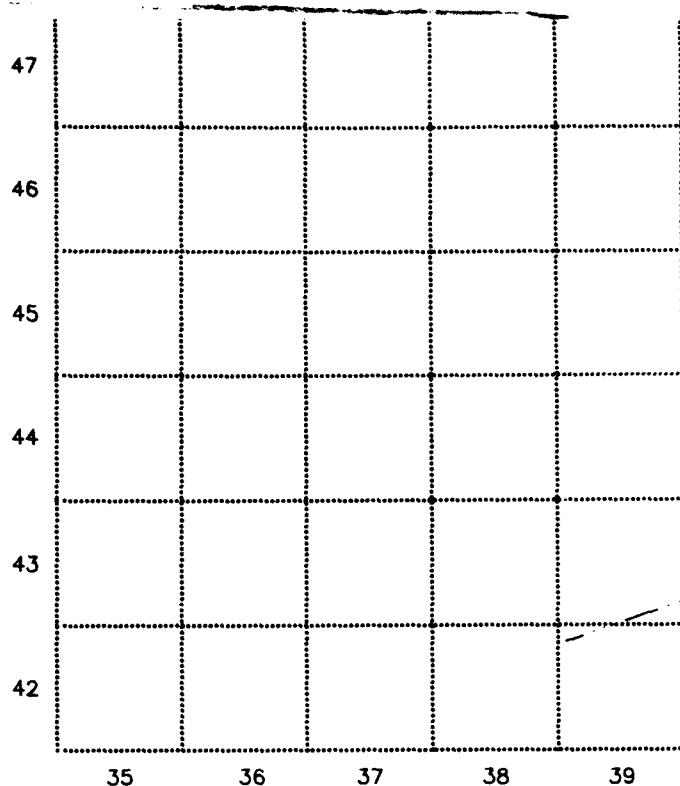


NOTES

1. BASE MAP SCANNED FROM FORT WINGATE DEPOT ACTIVITY GENERAL SITE MAP, JULY 1986, U.S. ARMY CORPS OF ENGINEERS.
2. 2 SOURCES OF MAPS OVERLAIN, ACTUAL DISTANCES APPROXIMATE FOR PRESENTATION PURPOSES.

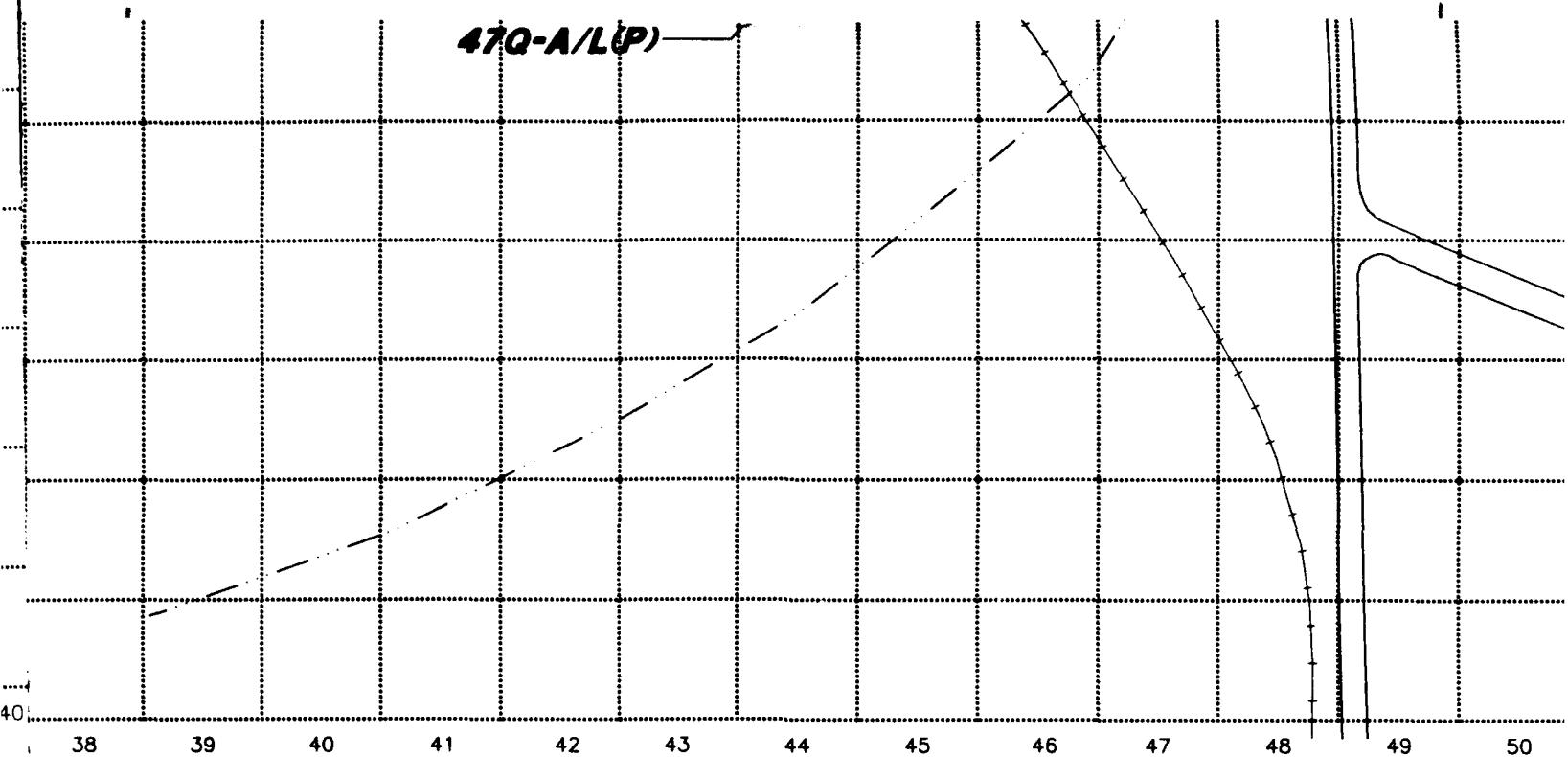
NO.	DATE	APPR.	REVISION	NO.

C



9

47Q-A/LP)



Fort Wingate Depot Activity

Gallup

New Mexico

Environmental Resources Management, Inc.

Exton, Pennsylvania 19341 (215) 524-3500



13

24D-HR/PS/A/L(P)/P
A(P)/L(P)

48 49 50 51 52 53 54 55 56 57 58 59 60



CHECKED DATE

DESIGN ENGINEER

PROJECT ENGINEER

PROJECT MANAGER

APPROVED

DRAWN

M.K. Bond/CMP

DATE

12.07.91

APPROVED

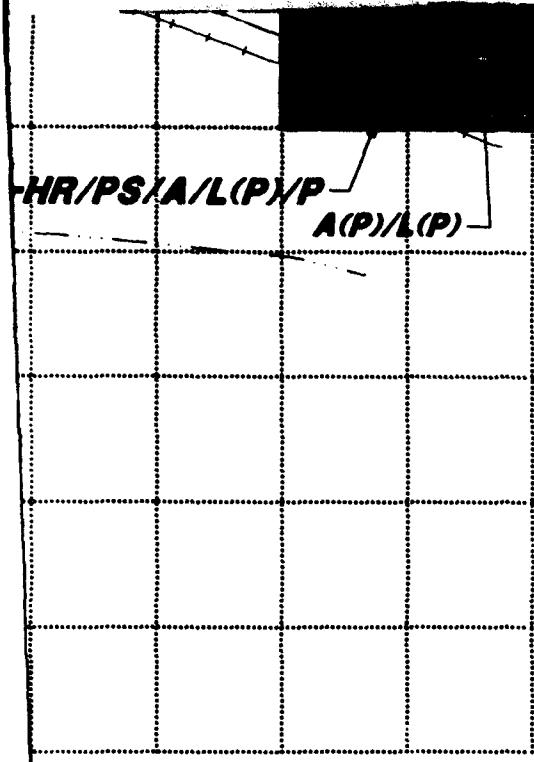
SCALE

1" = 300'

W.O. No.

PM307

CERFA Category a



A = ASBESTOS
 L = LEAD-BASED PAINT
 P = PCBs (POLYCHLORINATED BIPHENYLS)
 R = RADON
 X = UXO (UNEXPLODED ORDNANCE)
 RD = RADIONUCLIDE

- (P) POSSIBLE DISQUALIFIER/QUALIFIER
- NON-LEAKING UST OR AST
(FORMER OR ACTIVE)
- LEAKING UST OR AST
(FORMER OR ACTIVE)
- RELEASE OR DISPOSAL OF PETROLEUM
OR HAZARDOUS MATERIALS
- 36** BUILDING WITH CERFA QUALIFIER(S)
IN A DISQUALIFIED PARCEL

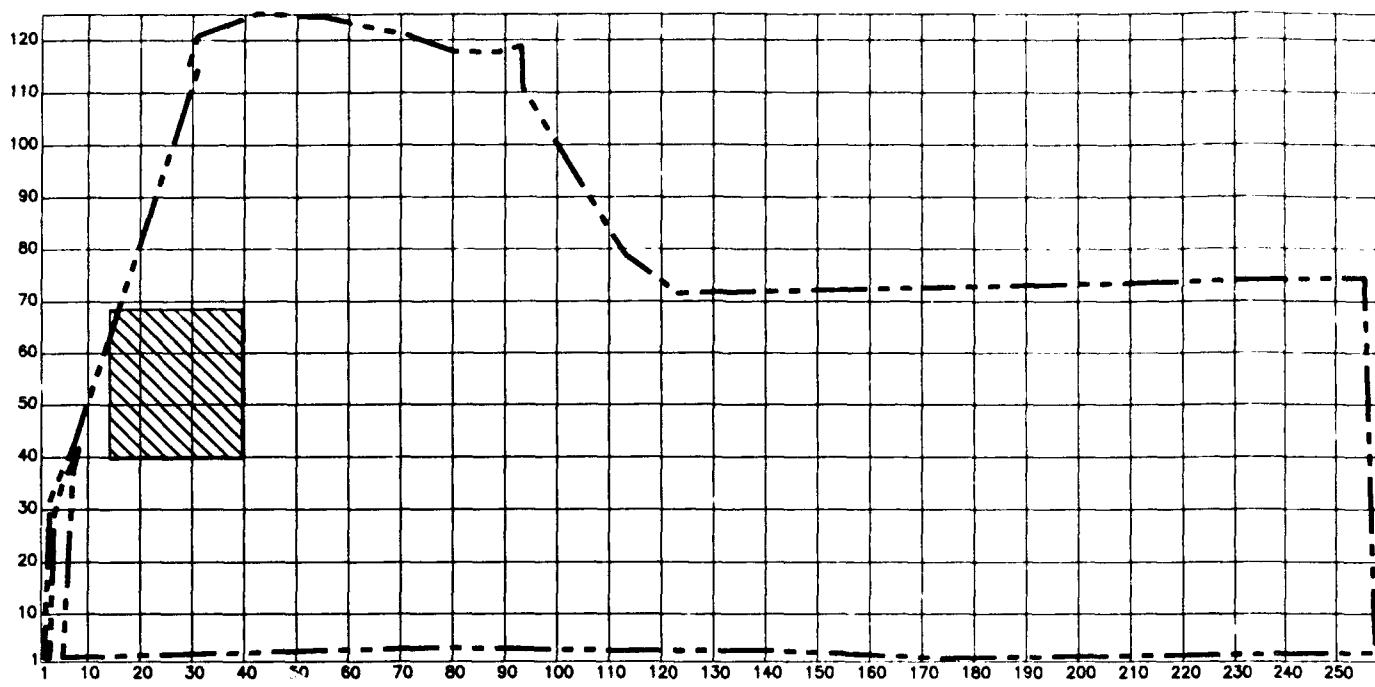
300 150 0 300 150
Scale in Feet

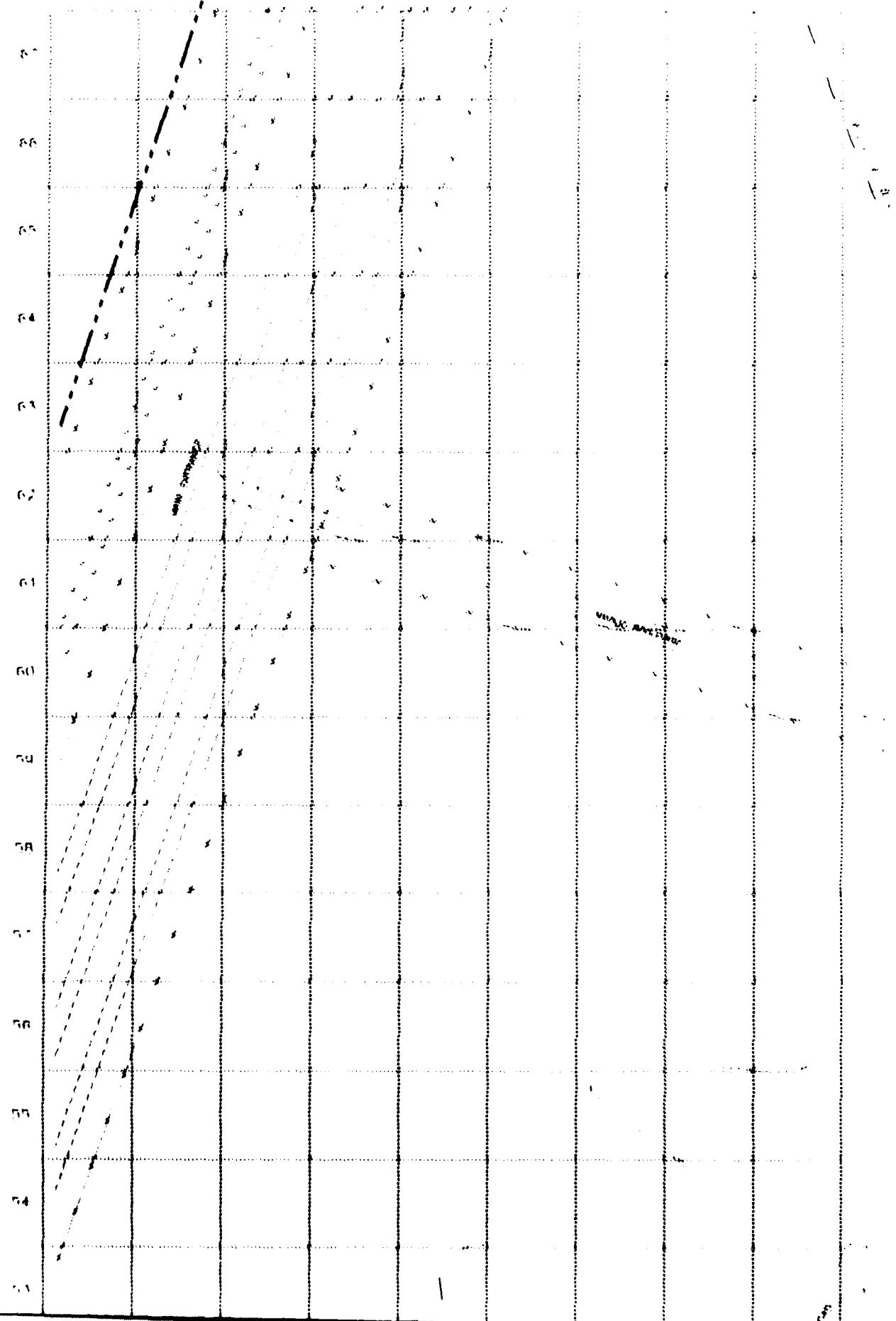
DRAWING NO.

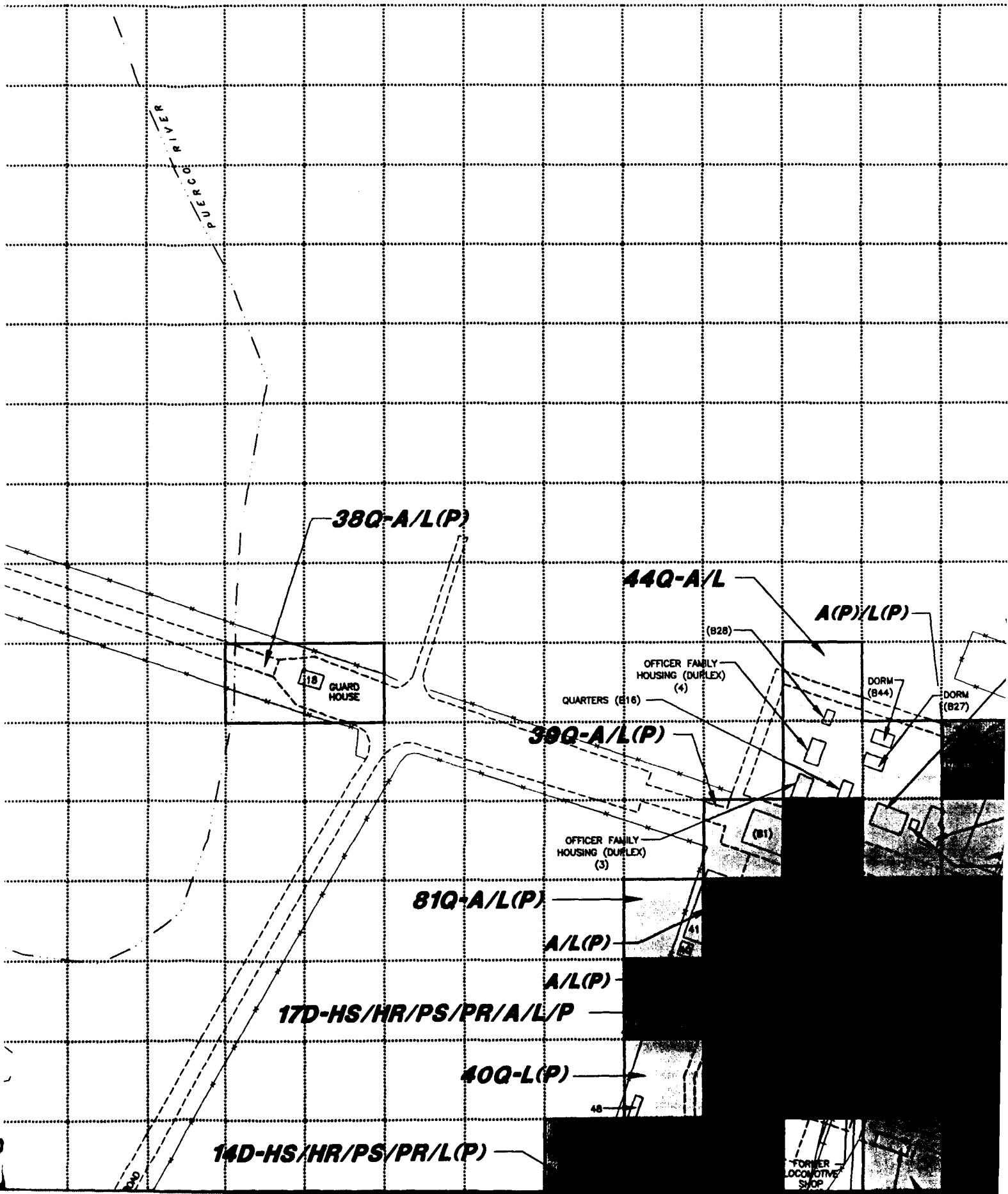
Figure 5.1-1

				REV. NO.
4.0 Bond/CMP	DATE 12.07.93/04.08.94	CLIENT APPROVAL		
01 300'	W.O. No. PM307.70.01/1306-1	ISSUED FOR	DATE	SHEET 4 OF 4

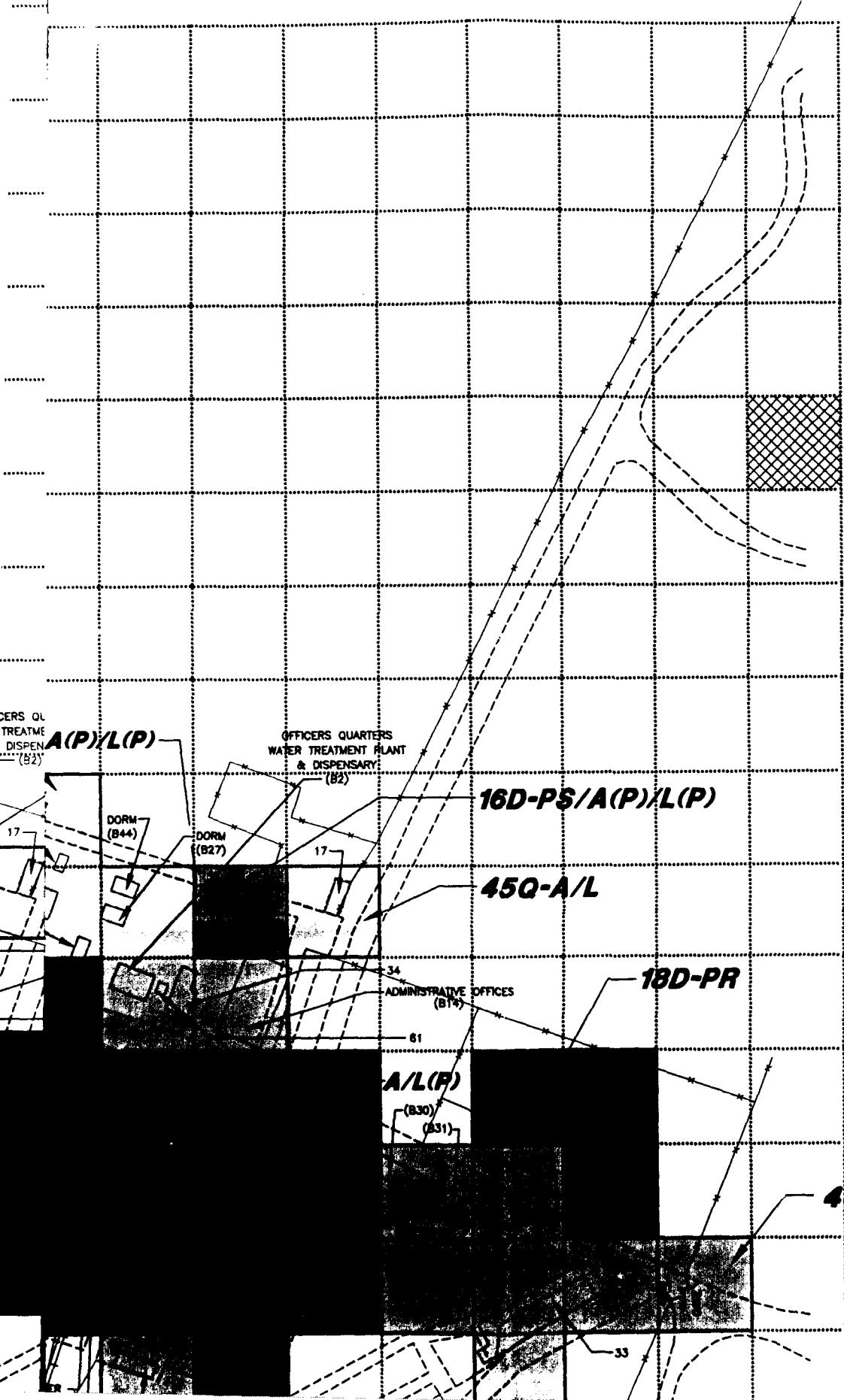
(15)







64



One Acre Grid Square
Coordinate Location: 63,39

LEGEND:



5

cre Grid Square
nate Location: 63,39

/L

DISQ

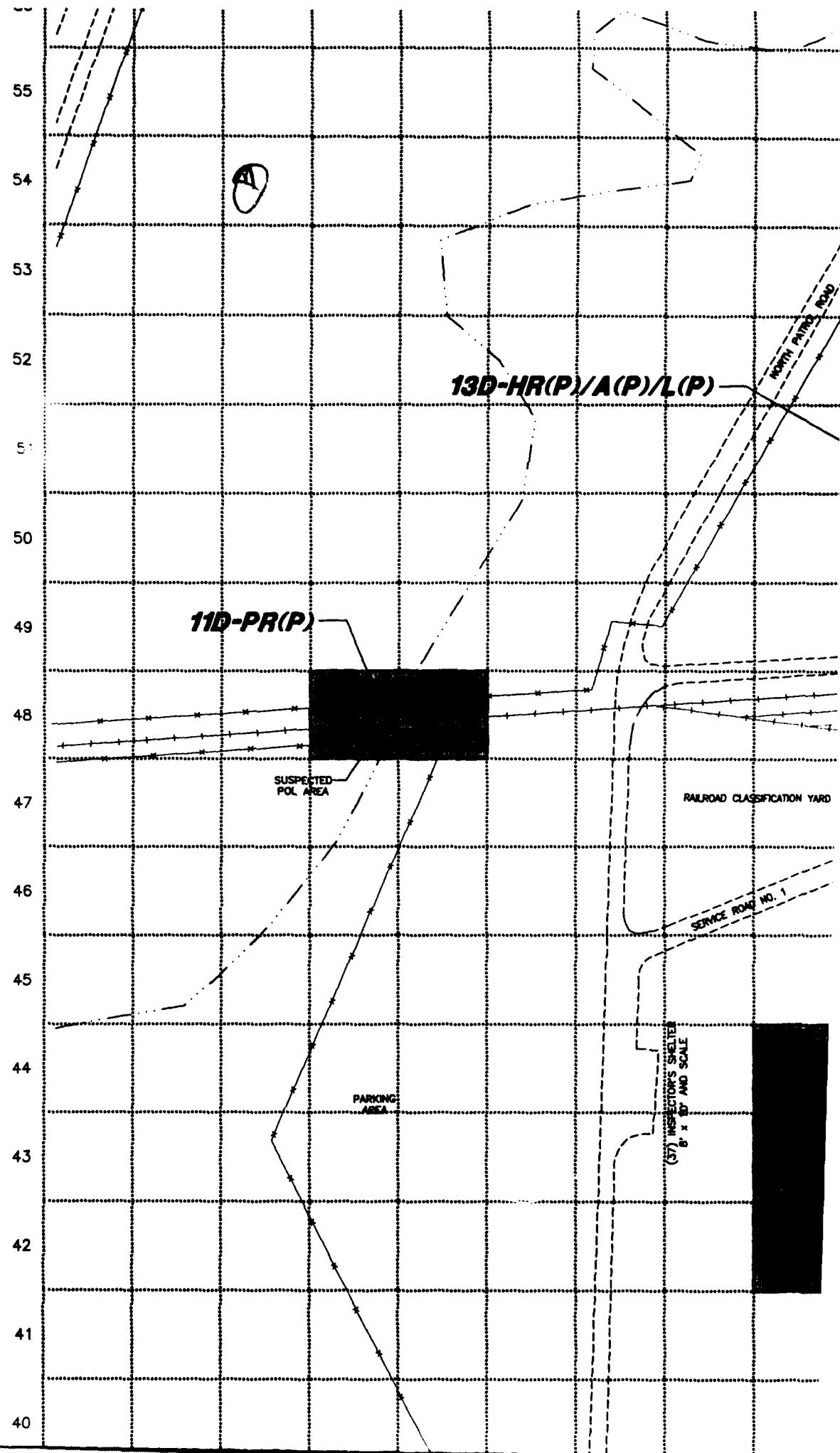
LEGEND:

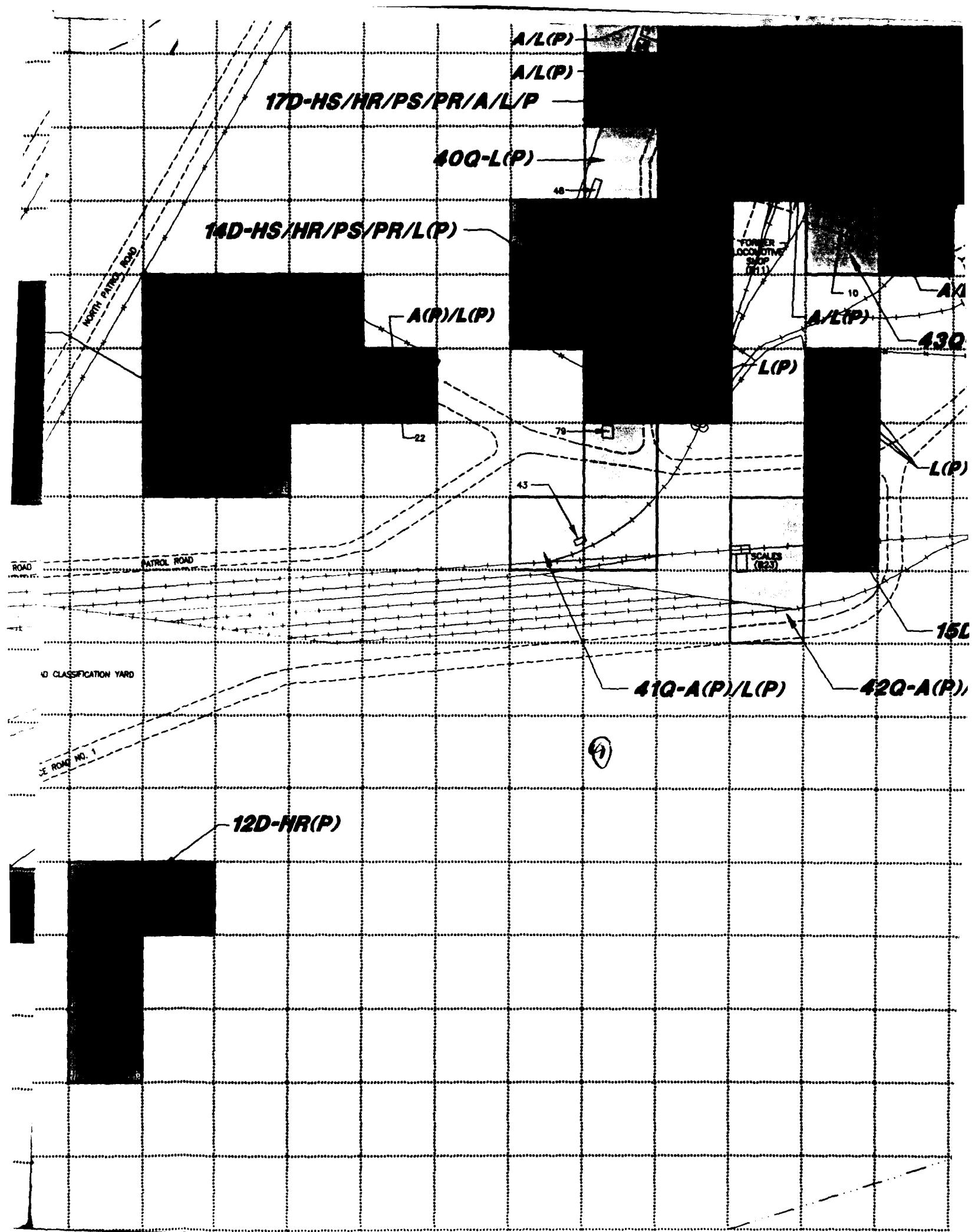
26



NOTES

1. BASE MAP SCANNED FROM FORT WINGATE DEPOT ACTIVITY GENERAL SITE MAP, JULY 1986, U.S. ARMY CORPS OF ENGINEERS.
2. 2 SOURCES OF MAPS OVERLAIN, ACTUAL DISTANCES APPROXIMATE FOR PRESENTATION PURPOSES.





(B30) ✓ (B31)

45Q-A/L

LEGEND:



5D-PR/1

FORMER LOCOMOTIVE SHOP (201)

A(P)

L(P)

FLUID STORAGE

SCALES (223)

A(P)/L(P)

AXLE

43Q-A(P)/L(P)

15D-PS/PR/L(P)

42Q-A(P)/L(P)

FLUORSPAR STORAGE AREA

(P)

1

36

46Q-A/L

(10)

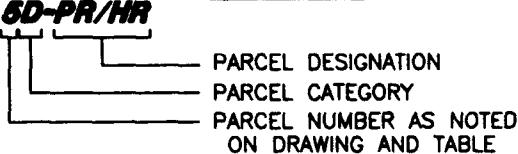
LEGEND:



- CERFA DISQUALIFIED
CERFA QUALIFIED
CERFA EXCLUDED
CERFA PARCEL

5D-PR/HR

PARCEL LABEL



PARCEL CATEGORY

- D = CERFA DISQUALIFIED PARCEL
Q = CERFA QUALIFIED PARCEL
E = CERFA EXCLUDED PARCEL
P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

- PS = PETROLEUM STORAGE
PR = PETROLEUM RELEASE/DISPOSAL
HS = HAZARDOUS MATERIALS STORAGE
HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL

QUALIFIED DESIGNATIONS

- A = ASBESTOS
L = LEAD-BASED PAINT
P = PCBs (POLYCHLORINATED BIPHENYLS)
R = RADON
X = UXO (UNEXPLODED ORDNANCE)
RD = RADIONUCLIDE

(P) POSSIBLE DISQUALIFIER/QUALIFIER

○ NON-LEAKING UST OR AST
(FORMER OR ACTIVE)

● LEAKING UST OR AST
(FORMER OR ACTIVE)

36 BUILDING WITH CERFA QUALIFIER(S)
IN A DISQUALIFIED PARCEL

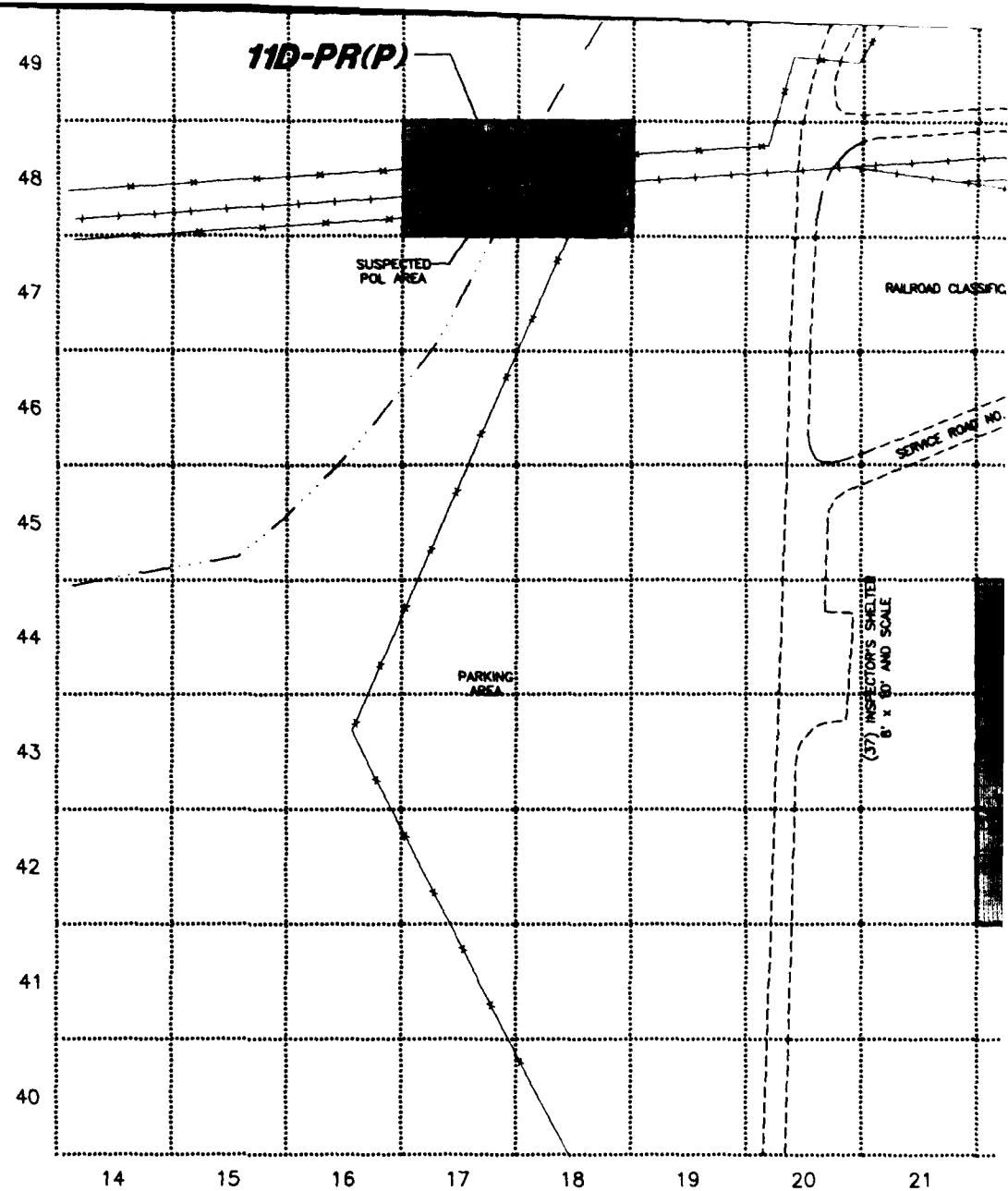


NOTES

1. BASE MAP SCANNED FROM FORT WINGATE DEPOT ACTIVITY GENERAL SITE MAP, JULY 1986, U.S. ARMY CORPS OF ENGINEERS.
2. 2 SOURCES OF MAPS OVERLAIN, ACTUAL DISTANCES APPROXIMATE FOR PRESENTATION PURPOSES.

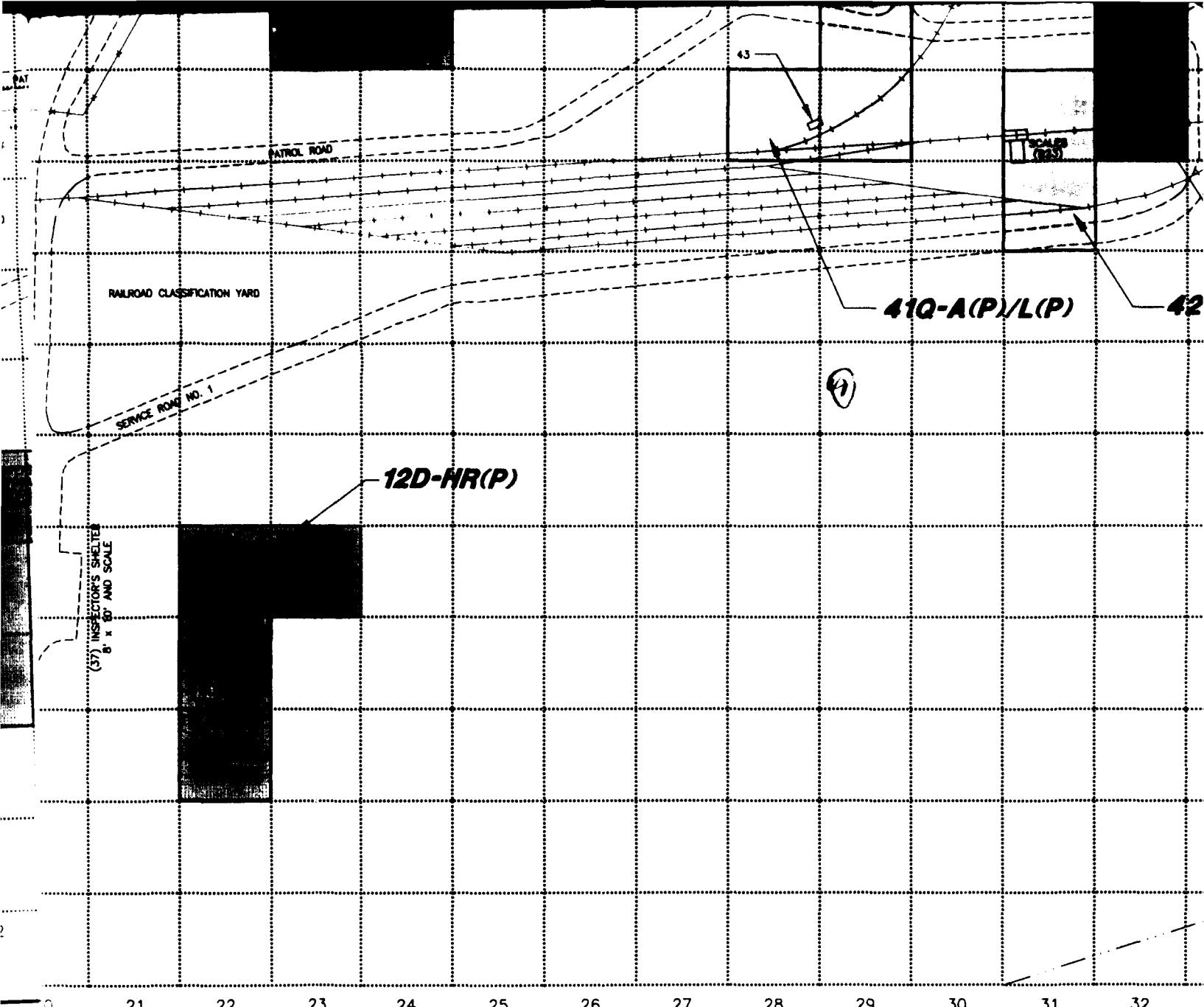
NO.	DATE	APPR.	REVISION	NO.	DATE

(1)



	NO.	DATE	APPR.	REVISION	
					Gallup
					Environ
					Exton, Penn

१०



Fort Wingate Depot Activity

Gallup

New Mexico

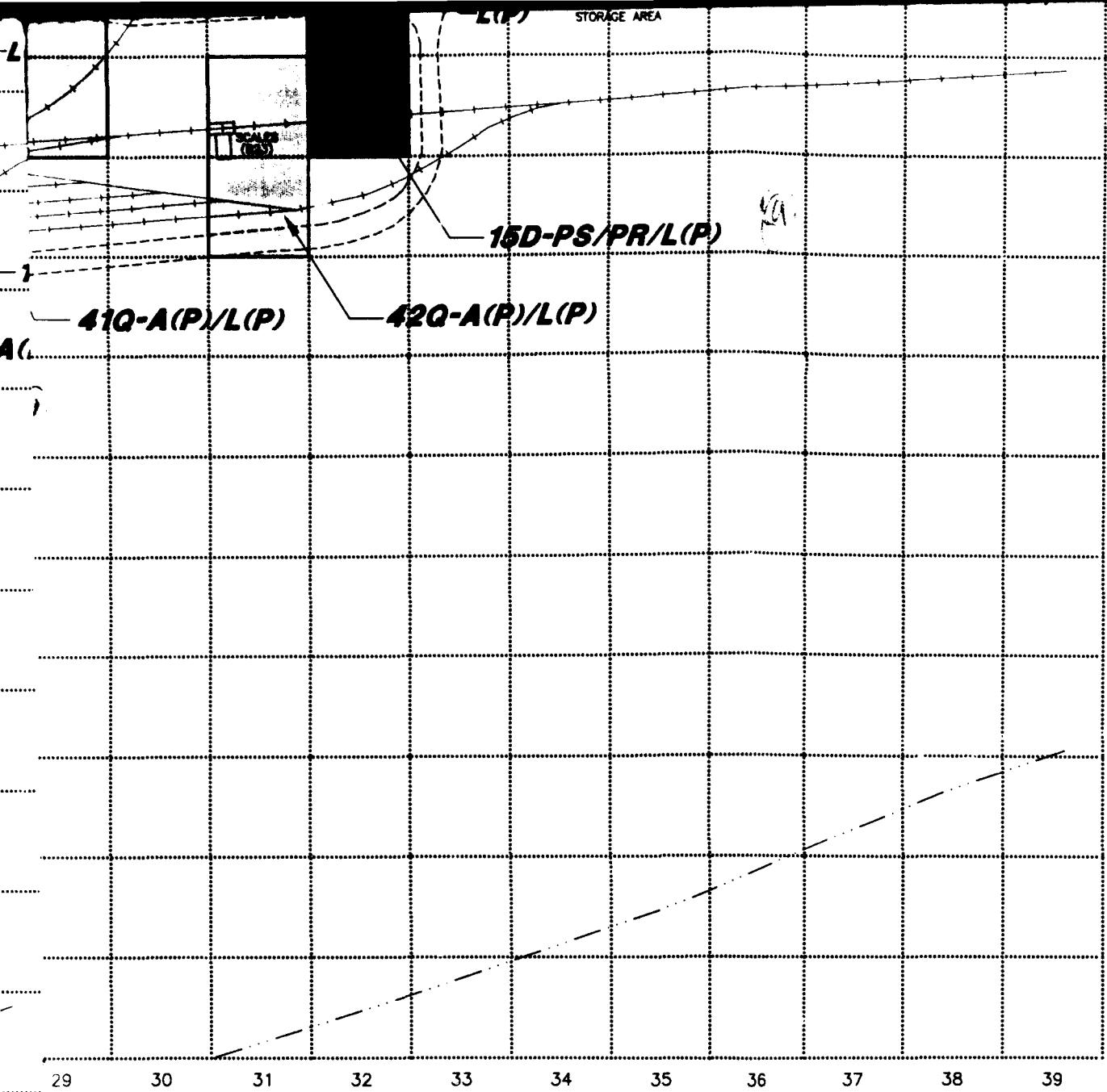
Environmental Resources Management, Inc.

Exton, Pennsylvania 19341 (215) 524-3500



CHECK
DESIGN
PROJE
PROJE
APPRO
APPRO

⑬



C E N T R E D I G I T I C S O L U T I O N S	CHECKED	DATE	CERFA Category and Description DRAWN M.K. Bond/CMP APPROVED APPROVED DRAWN M.K. Bond/CMP APPROVED DRAWN M.K. Bond/CMP		
	DESIGN ENGINEER				
	PROJECT ENGINEER				
	PROJECT MANAGER				
	APPROVED				
	APPROVED				
	SCALE	1" = 300'	DATE	12.07.93/04.09.93	
			W.O. No.	PM307.70.01/I30	

(14)

PARCEL DESIGNATION
PARCEL CATEGORY
PARCEL NUMBER AS NOTED
ON DRAWING AND TABLE

PARCEL CATEGORY

D = CERFA DISQUALIFIED PARCEL
Q = CERFA QUALIFIED PARCEL
E = CERFA EXCLUDED PARCEL
P = CERFA PARCEL

DISQUALIFIED DESIGNATIONS

PS = PETROLEUM STORAGE
PR = PETROLEUM RELEASE/DISPOSAL
HS = HAZARDOUS MATERIALS STORAGE
HR = HAZARDOUS MATERIALS RELEASE/DISPOSAL

QUALIFIED DESIGNATIONS

A = ASBESTOS
L = LEAD-BASED PAINT
P = PCBs (POLYCHLORINATED BIPHENYLS)
R = RADON
X = UXO (UNEXPLDED ORDNANCE)
RD = RADIONUCLIDE

(P) POSSIBLE DISQUALIFIER/QUALIFIER

○ NON-LEAKING UST OR AST
(FORMER OR ACTIVE)

● LEAKING UST OR AST
(FORMER OR ACTIVE)

36 BUILDING WITH CERFA QUALIFIER(S)
IN A DISQUALIFIED PARCEL

300 150 0 300 150
Scale in Feet

CERFA Category and Designation Map

DRAWING NO.

Figure 5.1-1

REV. NO.

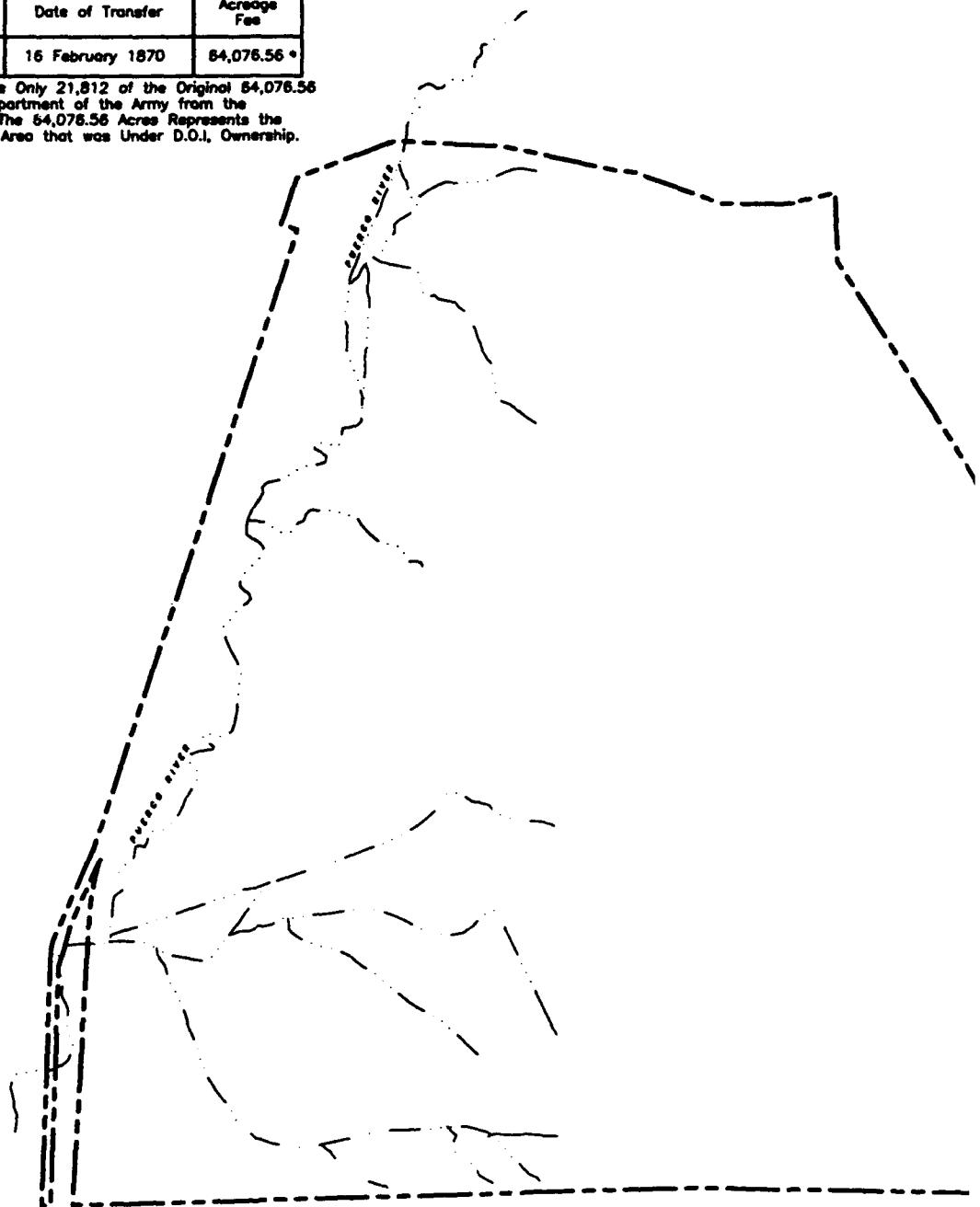
M.K. Bond/CMP	DATE 12.07.93/04.09.94	CLIENT APPROVAL		SHEET 3	OF 4
1" = 300'	W.O. No. PM307.70.01/I307-1	ISSUED FOR	DATE		

(S)

Fort Wingate Depot Activity Previous Owners

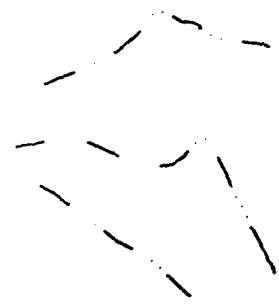
Tract No.	Name of Previous Owner (Transferees)	Date of Transfer	Acreage Fee
1	Department of the Interior	16 February 1870	64,076.56 *

Note: *The Current FWDA Represents Only 21,812 of the Original 64,076.56 Acres Transferred to the Department of the Army from the Department of the Interior. The 64,076.56 Acres Represents the Original 10 Mile by 10 Mile Area that was Under D.O.I. Ownership.

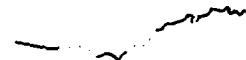




①



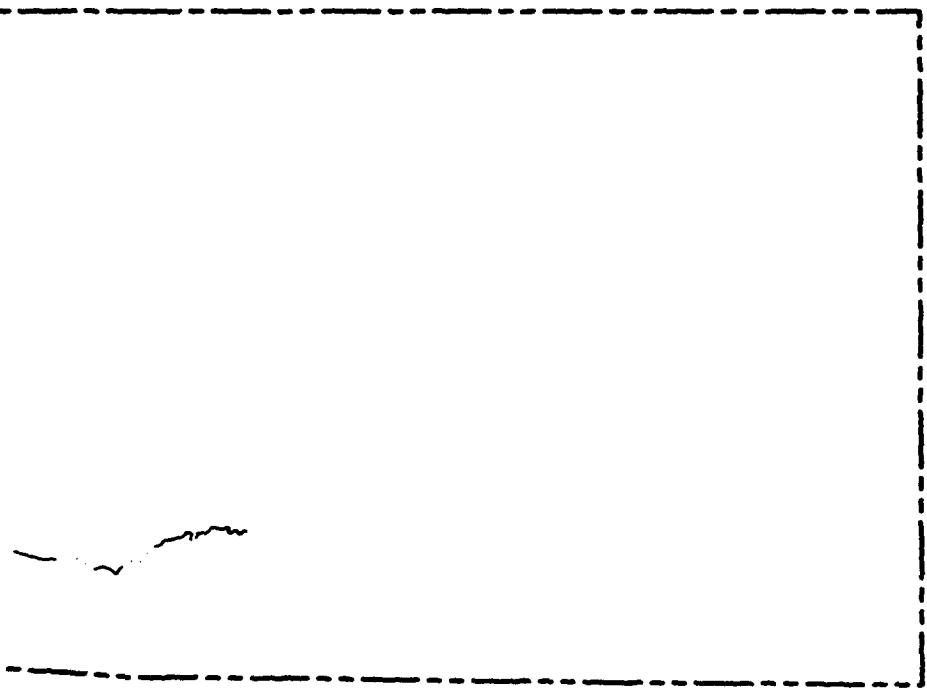
①



②

**Figure 5.2-1
Tract Map
Fort Wingate Depot Activity
Gallup, New Mexico**

Fo:

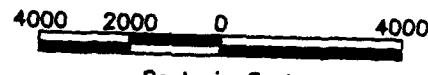


Legend

— Property Boundary
(Real BRAC Property)

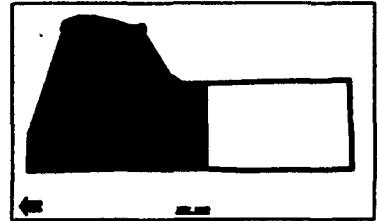


Tract Number



PM307.70.01/10.26.93-MKB/12.17.93-MKB/WGA201

3



ERM, INC.



①

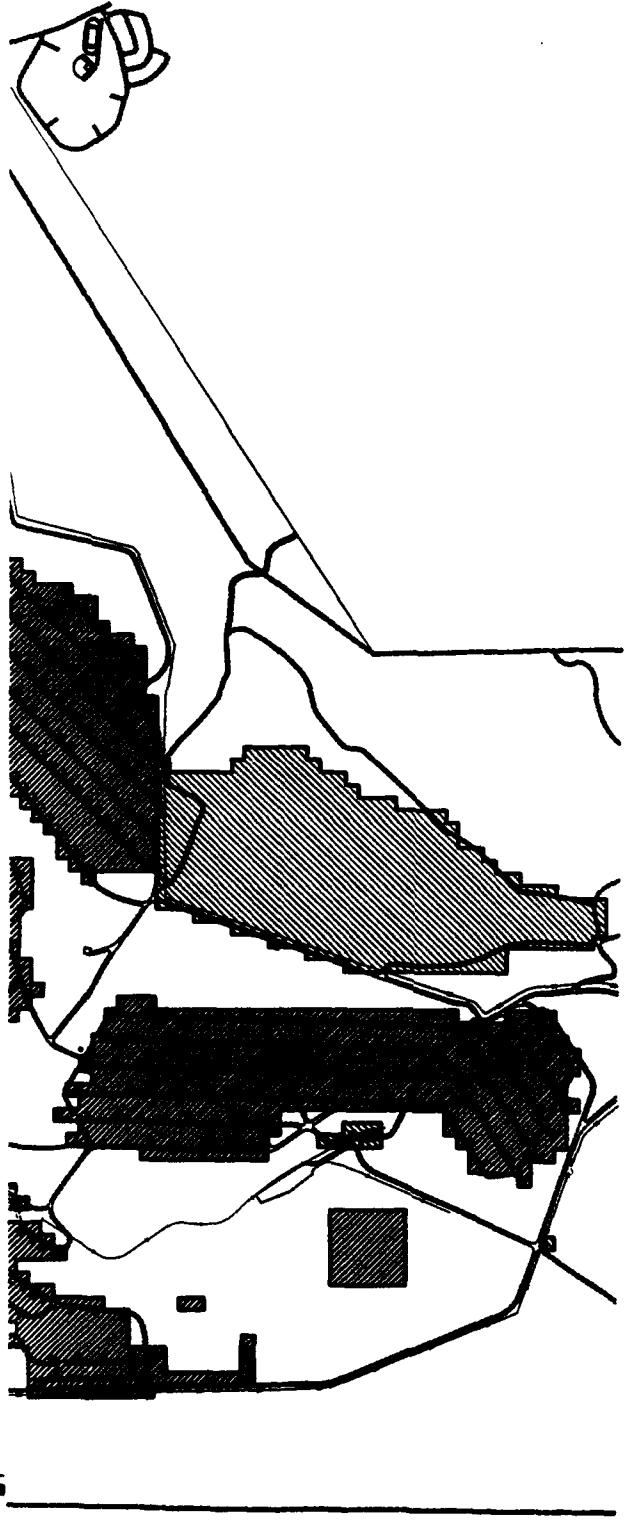
CER
For



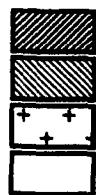
3000

(2)

Figure 5.3-1
CERFA Parcel Designations
Fort Wingate Depot Activity
Gallup, New Mexico



LEGEND:

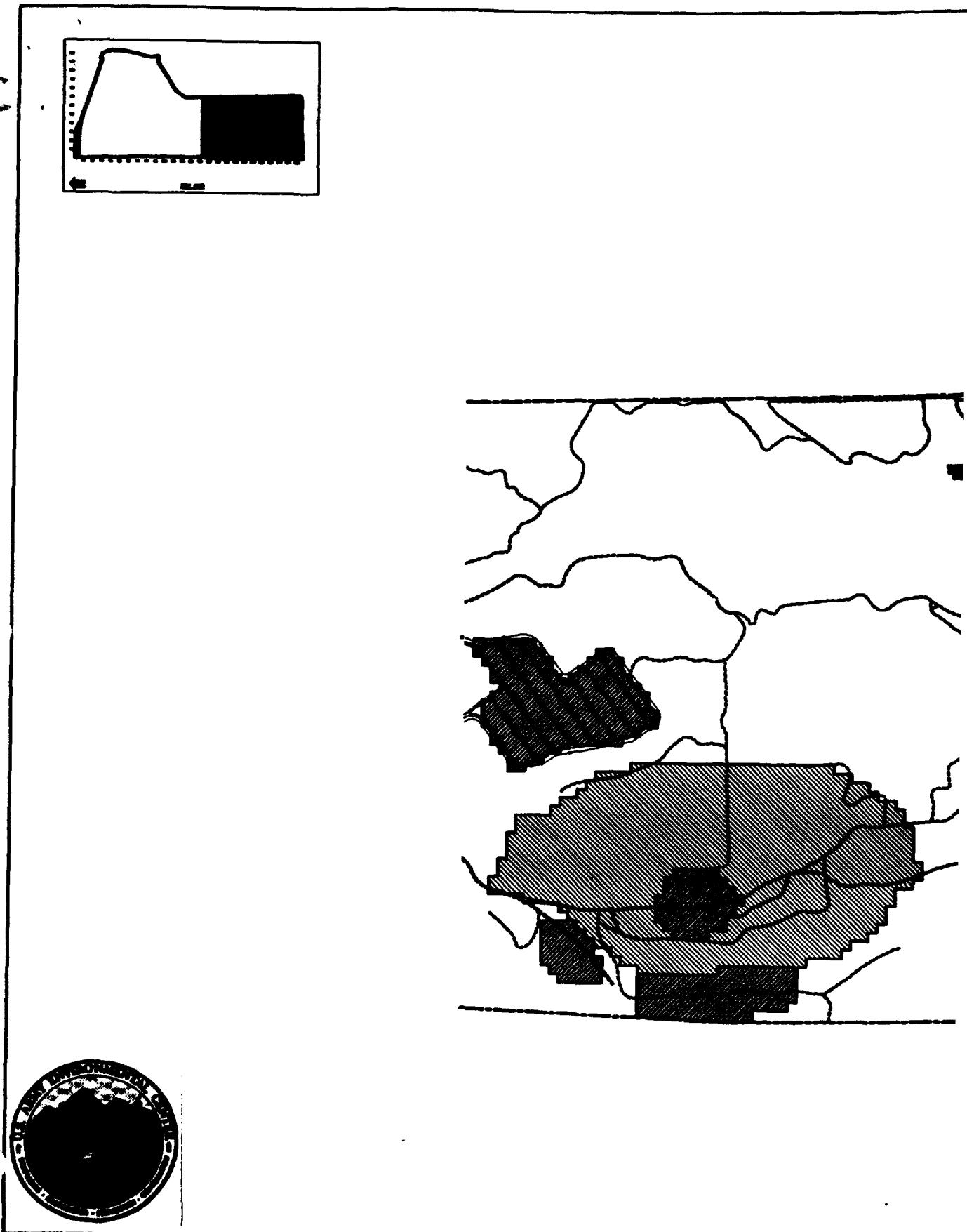


- CERFA DISQUALIFIED
- CERFA QUALIFIED
- CERFA EXCLUDED
- CERFA PARCEL

3000 1500 0 3000
Scale in Feet

PM307.70.01/04.09.94-CMP/I202

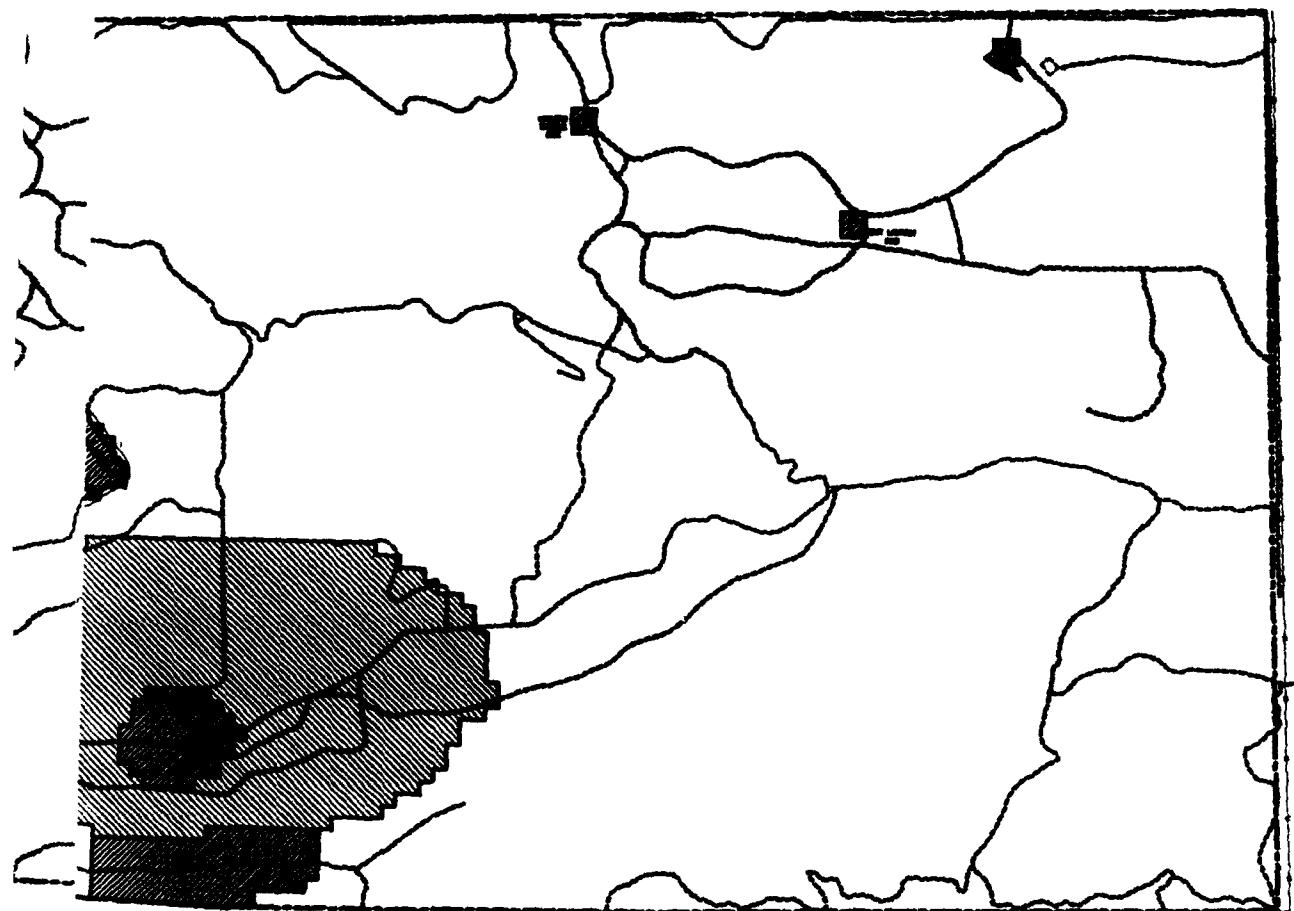
(3)



ERM, INC.

①

CERF/
Fort
(



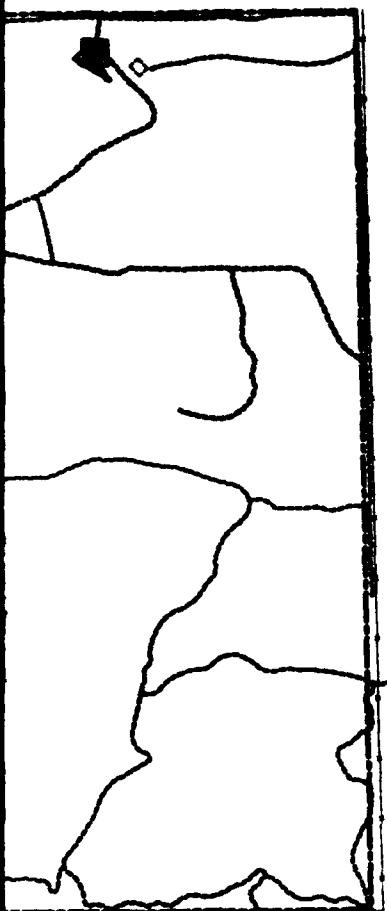
LEGE



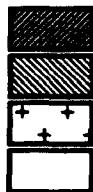
3000 1500

②

Figure 5.3-1
CERFA Parcel Designations
Fort Wingate Depot Activity
Gallup, New Mexico



LEGEND:

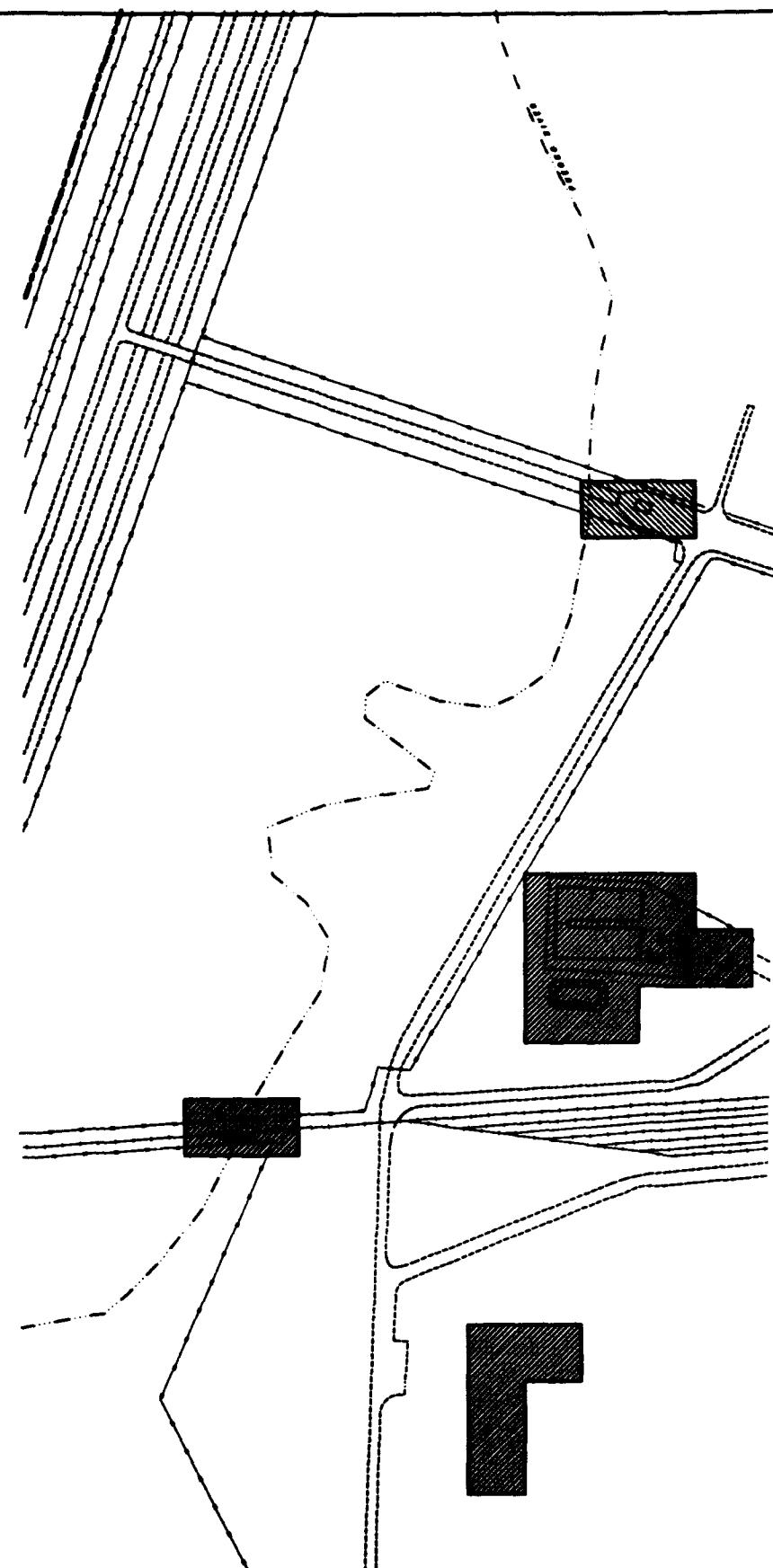
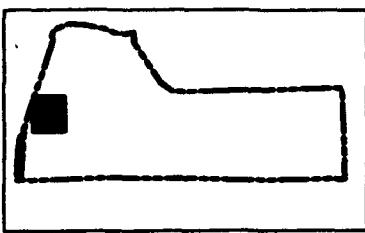


- CERFA DISQUALIFIED
- CERFA QUALIFIED
- CERFA EXCLUDED
- CERFA PARCEL

3000 1500 0 3000

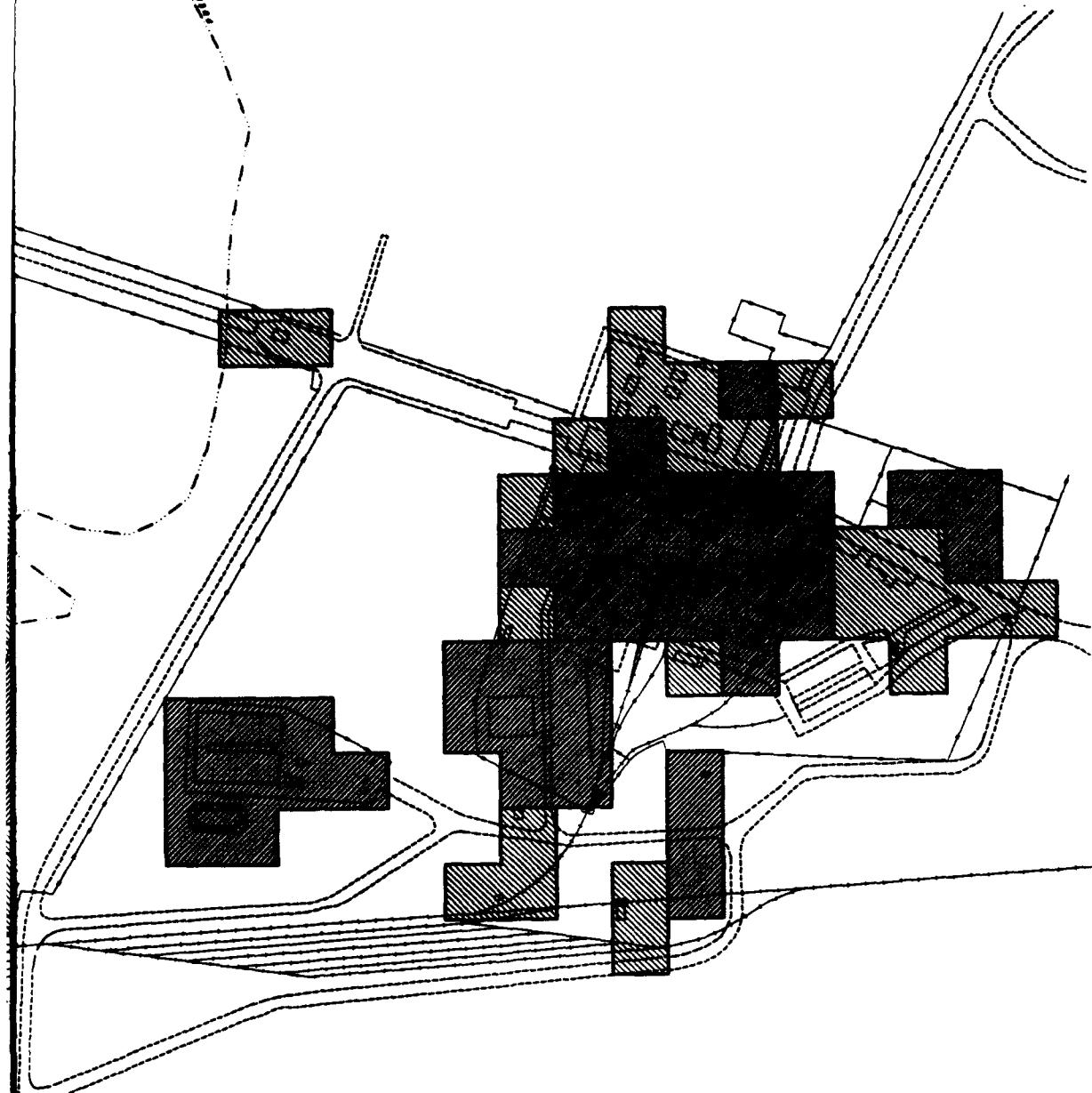
Scale in Feet



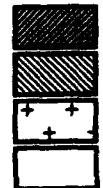


KRM, INC.

Figure
CERFA Parce
Fort Wingate
Gallup, N

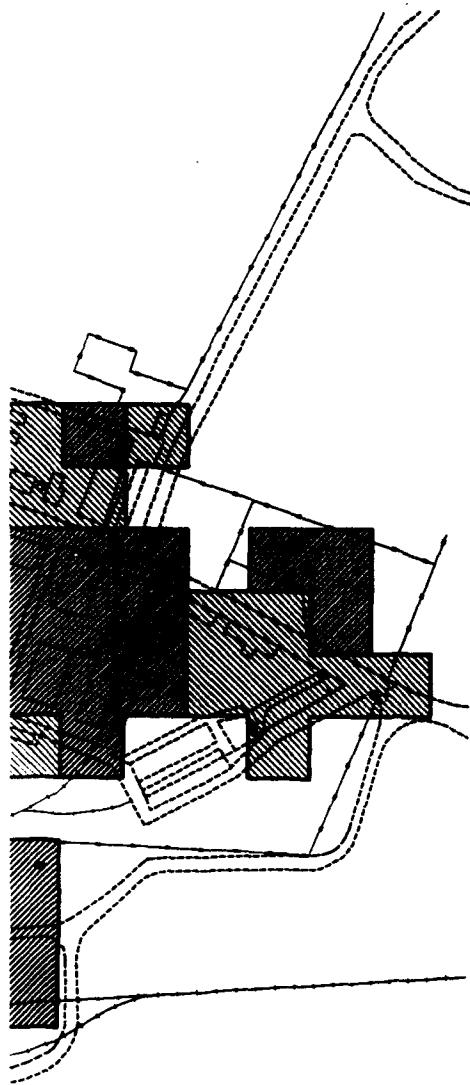


LEGEND:

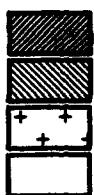


600 300 0
Scale in

Figure 5.3-1
CERFA Parcel Designations
Fort Wingate Depot Activity
Gallup, New Mexico



LEGEND:

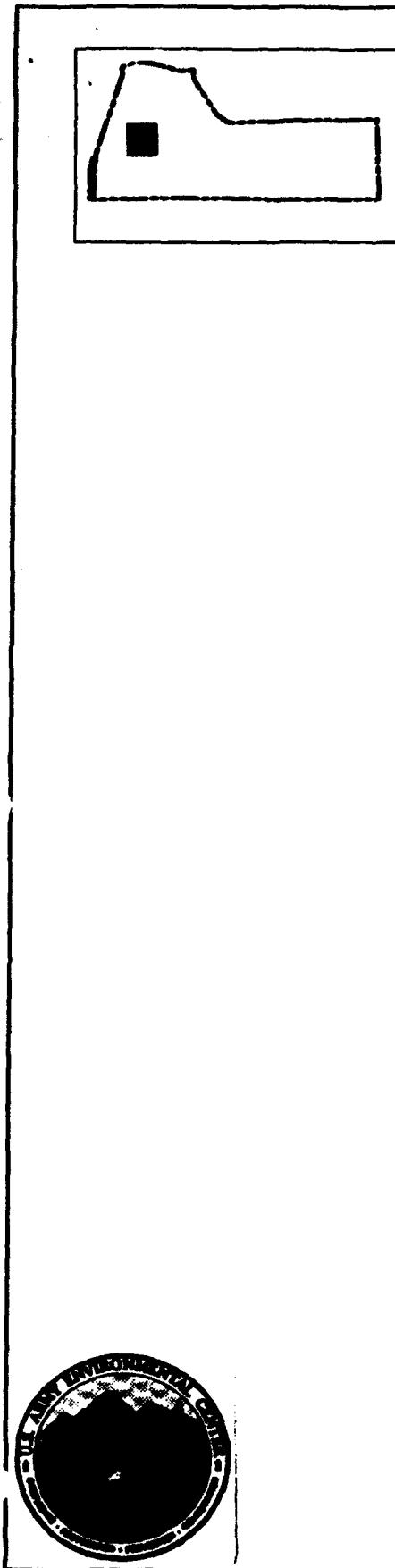


CERFA DISQUALIFIED
CERFA QUALIFIED
CERFA EXCLUDED
CERFA PARCEL

600 300 0 600

Scale in Feet





ERM, INC.



CERFA
Fort V
G

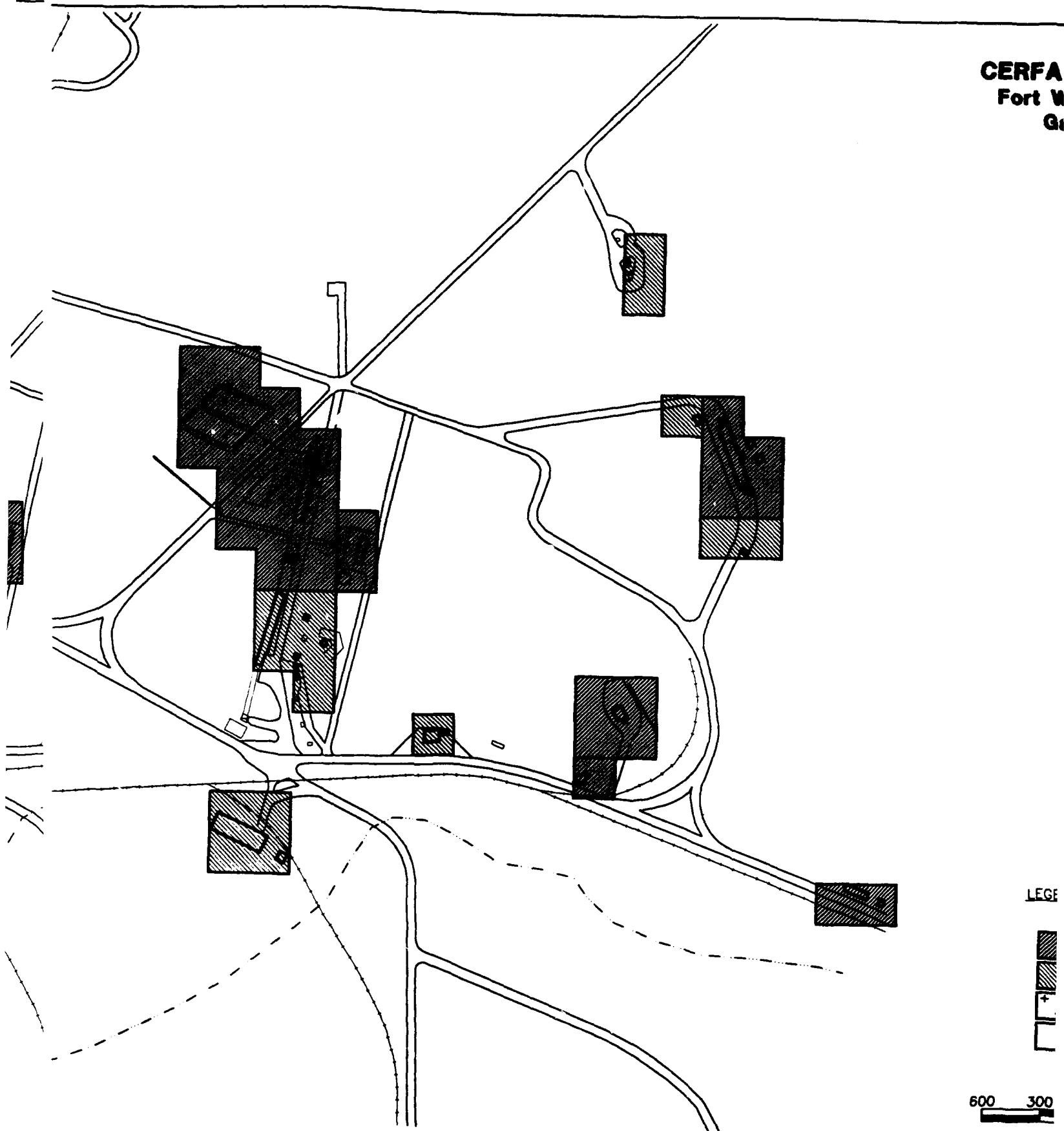
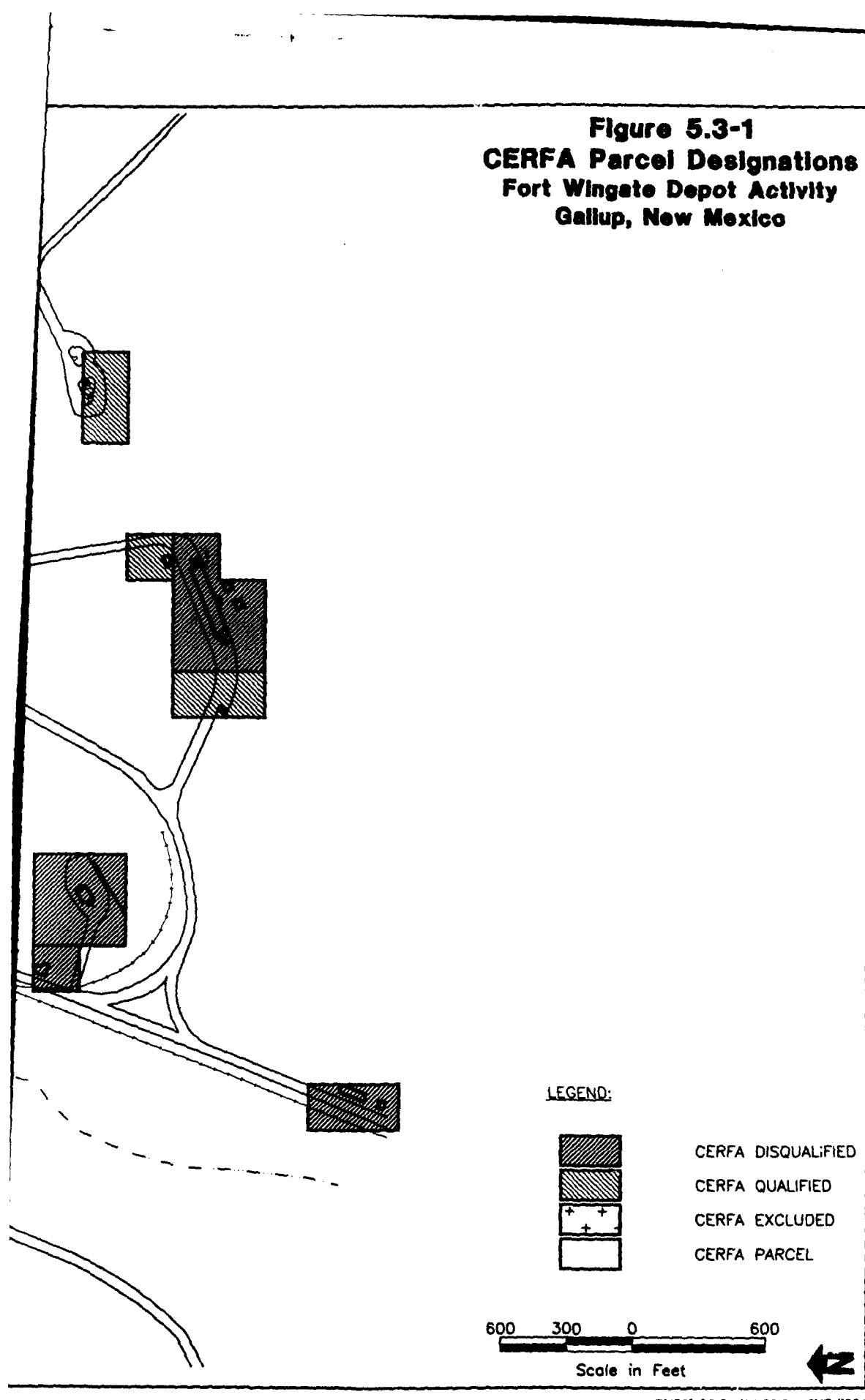


Figure 5.3-1
CERFA Parcel Designations
Fort Wingate Depot Activity
Gallup, New Mexico



PM307.70.01/04.09.94-CMP/1204

3



STATE OF NEW MEXICO
ENVIRONMENT DEPARTMENT

February 17, 1994

Mike Gaborek, Environmental Engineer
U. S. Army Environment Center
ATTN: SFIM-BCA
Aberdeen Proving Ground, MD 21010-5401

Dear Mike:

On behalf of the New Mexico Environment Department (NMED) and pursuant to the Defense/State Memorandum of Agreement (DSMOA) I have reviewed the draft Supplementary Preliminary Assessment Community Environmental Response Facilitation Act (CERFA) for Fort Wingate Depot Activity, Gallup, NM dated December 17, 1993.

I have also reviewed comments and revisions resulting from the Army's internal review provided in a cover letter to me dated January 28, 1994.

As a result of the comments, revisions and CERFA document references to the remedial investigation/feasibility study (RI/FS) I feel this document is very fragmented, making it difficult to review.

Because the draft final RI/FS is complete, I request that all references to the RI/FS be replaced with the relevant information, and that all revisions or refinements, based on the Army review to date, be included in a document for my review.

I appreciate the need for a quick review from NMED and I intend to do just that when I have a document that's less fragmented and more comprehensive. Based on my review of the information in the RI/FS I do not anticipate serious problems with the CERFA Report.

I look forward to reviewing a more complete draft.

Sincerely,

John J. Pfeil, Geologist
DSMOA Group

Enclosures 2

cc: Sing Chia, USEPA
Marc Sides, NMED

Harold Runnels Building
1190 St. Francis Drive
P.O. Box 36110
Santa Fe, NM 87502
(505) 827-2830
(505) 827-2836

**U.S. Army Environmental Center
Response to Regulatory Comments
Fort Wingate Depot Activity Draft CERFA Report**

1. **COMMENT:** From State of New Mexico Environment Department, Letter dated 17 February 1994 - As a result of the comments, revisions and CERFA document references to the Remedial Investigation/Feasibility Study (RI/FS) I feel this document is very fragmented, making it difficult to review.

ARMY RESPONSE: Several programmatic changes have been incorporated into all CERFA reports, including Fort Wingate, which will result in the document being less fragmented and will facilitate review. Additionally, the incorporation of the states comments will provide a less fragmented and easier to read document.

2. **COMMENT:** From State of New Mexico Environment Department, Letter dated 17 February 1994 - Because the Draft Final RI/FS is complete, I request that all references to the RI/FS be replaced with the relevet information, and that all revisions or refinements, based on the Army review to date, be included in a document for my review.

ARMY RESPONSE: References to the RI/FS will be replaced with relevant information from the RI/FS where appropriate, and when practical. Revisions and refinements based on the Army's review will be incorporated as indicated in the RESPONSE TO INTERNAL ARMY COMMENTS provided below. A final document will be provided to the New Mexico Environment Department, however statutory deadlines for the completion of CERFA documents will preclude the opportunity to provide additional comments.

**U.S. Army Environmental Center
Response to Internal Army Comments (Requested by the State of New Mexico Environment Department)
Fort Wingate Army Depot Activity Draft CERFA Report**

1. Page 1-1, Section 1.1, Mr. Gaborek
Purpose and Scope

Comment: Replace the word, "contamination", in Line 4, Paragraph 1, with the word, "concerns". Replace the phrase, "categories of contamination", appearing in Lines 9-10 of the referenced paragraph with the phrase, "environmental concerns".

Recommendation: Revise Paragraph 1 in accordance with the provided comment.

ARMY RESPONSE: Comment has been incorporated.

2. Page 1-1, Section 1.1, Mr. Gaborek
Purpose and Scope
Comment: Replace the word, "contamination", appearing in Line 5, Paragraph 3, with the word, "environmental".
Recommendation: Revise Paragraph 3 in accordance with the provided comment.

ARMY RESPONSE: Comment has been incorporated

3. Page 1-2, Section 1.2, Mr. Gaborek
Definition of Terms - CERFA Parcel
Comment: Replace the word, "contamination", appearing in Line 5 of the referenced section with the word, "substances".
Recommendation: Revise the referenced section in accordance with the provided comment.

ARMY RESPONSE: Comment has been incorporated.

4. Page 1-2, Section 1.2, Mr. Gaborek
Definition of Terms - CERFA Parcel with Qualifier(s)
Comment: Replace the word, "contamination", appearing in Line 5 of the referenced section with the word, "substances".
Recommendation: Revise the referenced section in accordance with the provided comment.

ARMY RESPONSE: Comment has been incorporated.

5. Page 1-2, Section 1.2, Mr. Gaborek
Definition of Terms - CERFA Disqualified Parcel
Comment: Replace the word, "dumping", appearing in Line 7 of the referenced section with the word, "disposal".
Recommendation: Revise the referenced section in accordance with the provided comment.

ARMY RESPONSE: Comment has been incorporated.

6. Page 1-4, Section 1.3, Mr. Gaborek
Geographical/Environmental Setting
Comment: It would be useful to include the depth to the San Andres-Glorieta aquifer in the last paragraph of Page 1-4. The reason for this additional information is to give the reviewer a perspective on the lack of water at the FWDA. In addition, the reviewer will understand that the depth to groundwater precludes contamination from soil contamination.
Recommendation: Include the depth to the potable water source at FWDA in the last paragraph of Page 1-4.

ARMY RESPONSE: Comment has been incorporated.

7. Page 2-1, Section 2.0, Mr. Gaborek

Scope of Investigation

Comment: Avoid use of the term, "etc." Use of this term is included in the first bullet item listed in the referenced section.

Recommendation: Specifically list all types of reports mentioned in the first bullet item in the referenced section and eliminate the use of the term, "etc."

ARMY RESPONSE: Comment has been incorporated.

8. Page 2-2, Section 2.1, Mr. Gaborek

Existing Investigation Documents

Comment: Eliminate the date of April 1994 from the last sentence of the referenced section appearing on Page 2-2.

Recommendation: Replace the last sentence of the referenced section with the statement, "The RI/FS Report was made available for regulatory review at the end of January 1994."

ARMY RESPONSE: Comment has been incorporated.

9. Page 2-2, Section 2.2, Mr. Gaborek

State Records

Comment: Avoid use of grammatical structure such as the phrase, "and/or" appearing in the last line of the referenced subsection of Section 2.2. This concern is also applicable to the phrase, "detection/clearance", appearing in Line 2, Section 2.4.

Recommendation: Revise the referenced subsection and section to eliminate the referenced awkward grammatical structures.

ARMY RESPONSE: Comment will not be incorporated. Comments concerning style of writing will not be incorporated.

10. Page 2-2, Section 2.3, Mr. Gaborek

Interviews

Comment: Clarify the inclusion of the acronyms, "RI" and "FS", in the last line of Page 2-2. Both of these acronyms have specific meanings. Your placement of these acronyms in the last sentence of this page is confusing.

Recommendation: Revise the referenced section in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

11. Page 2-3, Section 2.5, Mr. Gaborek
Title Documents

Comment: Include text for the referenced section. The only statement in this section is a reference to a map section. Every identified report outline section should include text. If the section does not include some type of text, then it obviously cannot be a specific report outline section.

Recommendation: Include descriptive text in Section 2.5 to define the content of this section using format being provided by USAEC.

ARMY RESPONSE: Comment will be incorporated.

12. Page 3-1, Section 3.0, Mr. Gaborek
Property Background Information

Comment: Section 3.0 looks like a blank section which lacks text. It is poor report structure to present a main report section without including text to support the section. If this is just a section title, make it stand out as such or center it. This comment is applicable to the entire report, i.e., Section 4.0, Page 4-1.

Recommendation: Make the proper corrections in accordance with the above comments.

ARMY RESPONSE: Comment will be incorporated.

13. Page 4-1, Section 4.1, Mr. Gaborek
Previously Identified AREES, General Comment

Comment: The format of Section 4.1 is very difficult to follow and is generally confusing. For example, "Igloo Blocks A through H, J, and K" is not presented as a subsection. It is presented as an indented, highlighted title. It is suggested that this section be divided into specific large property areas of the FWDA and all applicable CERFA issues focused to those specific property areas. FWDA is generally divided into the following property areas: Administration Area, Work Shop Areas, Igloo and Magazine Areas, and Open Demolition and Open Burning Ground Areas. These property groups should have been used as subsections of Section 4.1 with applicable concerns listed under each of these areas.

Recommendation: Revise Section 4.1 in accordance with the provided comment.

ARMY RESPONSE: Comment noted, however comment will not be incorporated. The comment requests a format change due to a style preference. Comments will not be incorporated due to a writing style preference as long as all pertinent data is presented.

14. Page 4-2, Section 4.1, Mr. Gaborek

1. Igloo Block A

Comment: The last sentence of Paragraph 1 of the referenced subsection indicates the potential for explosive residue. You should qualify this statement with the fact that explosive residue is expected to be very limited. The justification for this statement is that the Army's protocol mandated that any and all spills from defective crates had to be cleaned up.

The sentence containing the date of April 1994 appearing in Line 2, Paragraph 2, of the referenced subsection should be changed to the statement, "The results were made available for regulatory review at the end of January 1994."

Recommendation: Revise the subsection discussion of Igloo Block A in accordance with the provided comment. In addition, revise your discussion of Igloo Blocks B through K, inclusive, in accordance with the provided comment for Igloo Block A.

The concern about changing the date from April 1994 to January 1994 and the revised sentence appearing in the above comment are applicable to all subsections of Section 4.1 of the CERFA Report. All analytical data will be available for regulatory review at the end of January 1994. Explicitly state that the reports are currently under review by the State of New Mexico and EPA Region VI. The final, regulatory-approved RI/FS is scheduled to be completed by June 10, 1994, however, the public has the right to review the copies of the RI/FS Report that are provided for regulatory review. Make all necessary changes regarding this time frame in Section 4.1.

It appears that the preparers of the CERFA Report failed to coordinate site-specific information with the team that is working on the RI/FS Report. Ensure that CERFA areas of concern are "cleared" through the appropriate RI/FS team personnel to avoid ambiguous messages to the regulatory community.

ARMY RESPONSE: Comment will be incorporated.

15. Page 4-1, Section 4.1, Mr. Gaborek

Previously Identified AREEs, General Comment

Comment: This Center disagrees with your approach taken to refer the reviewer to data presented in the RI/FS report. ERM did both the CERFA and the RI/FS Reports. At this point in time, you are capable of presenting definitive statements about either the lack of environmental concern or the presence of specific constituents. An additional concern is that in some instances you find it necessary to report specific issues, i.e., the presence of PCBs near Building 11, in other instances where we know specifically that the area is free and clear of identifiable environmental concerns, i.e., the extended storage yard, you refer the reviewer to the RI/FS rather than explicitly stating that the results of the RI/FS confirm the absence of environmental issues. Your approach tends to focus attention to negative issues rather than highlighting the fact that very few environmental issues remain at the FWDA.

Recommendation: Revise Section 4.1 to include concise statements about either the lack of constituents or the specific compounds found at each of the sites discussed in Section 4.1. In making your revisions, avoid use of the statement, i.e., "Preliminary results indicate the presence of hazardous materials (PCB 1254), (End of Paragraph 2, Subsection - Building 536). Use instead statements such as, "Results indicate the presence of low levels of PCB 1254 at concentrations of..."

ARMY RESPONSE: Comment noted. Where appropriate and practical information will be presented rather than referencing a document.

16. Page 4-7, Section 4.1, Mr. Gaborek

Building 22, General Comment

Comment: If you are going to present a subsection, include applicable text to justify inclusion of that specific subsection. Simply referring the reviewer to Table 4.4-1 without providing a reason for this reference is not acceptable.

Recommendation: This comment applies to all such references throughout Section 4.1, i.e. Building 80, Page 4-8. In all such cases, provide justification for directing the reviewer to Table 4.1-1. Do not assume that the reviewer knows what your intention is.

ARMY RESPONSE: Comment noted. Comment will not be incorporated, because this is a programmatic format which all CERFA documents will follow and therefore all documents will be consistent.

17. Page 4-8, Section 4.1, Mr. Gaborek

Previously Identified AREEs, Former POL Area

Comment: You state in this section that "possibly some solvents" were poured on the ground at the POL Area. What is the basis for this statement? Speculative conclusions have no place in this type of presentation. This reviewer has also been told by site personnel that the POL Area was used solely to dispose of food preparation greases from the Native American food distribution center that operated within the Administration Area.

Recommendation: Revise the discussion of the Former POL area to address the applicable concerns.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because the "speculative" information is found in the literature, and CERFA guidelines indicate this is reason enough for parcel determination. Undocumented, verbal information as the comment requests should not be included in the report at this time.

18. Page 4-10, Section 4.1, Mr. Gaborek

Previously Identified AREEs, Building 6

Comment: In the last paragraph of this subsection, you stipulate that soil and sediment sampling were conducted as part of the RI/FS for the ongoing UST removal actions. This is not correct. ERM was specifically directed not to take samples for the UST removals. The UST actions are the sole responsibility of the Tooele subcontractor.

Recommendation: Revise this subsection in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

19. Page 4-13, Section 4.1, Mr. Gaborek

19. Former TNT Washout Facilities

Comment: The last paragraph of this subsection states that the wells were dry in 1981. No mention is made of the fact that ERM also evaluated these wells in 1992. This comment also applies to the last two lines of Paragraph 2, subsection - Ammunition Painting (Building 515).

Recommendation: Revise the referenced subsections to include details of your monitoring well evaluation. Ensure that you consult with the RI/FS team on all such issues.

ARMY RESPONSE: Comment will be incorporated.

20. Page 4-14, Section 4.1, Mr. Gaborek

Former Boiler House (Building 501)

Comment: Identify the acronym, "DRMO", appearing in Line 6, Paragraph 2, of the referenced subsection.

Recommendation: Revise the referenced subsection in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

21. Page 4-16, Section 4.1, Mr. Gaborek
21. Former Deactivation Furnace (Building 530)
Comment: Replace the phrase, "contamination by", appearing in the last line of Paragraph 3 of the referenced subsection with the phrase, "elevated levels of".
Recommendation: Revise Paragraph 3 of the referenced subsection in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

22. Page 4-17, Section 4.1, Mr. Gaborek
24. Buildings 535 and 536
Comment: The actual discussion of Building 536 comes before the discussion of Building 535. Reverse the order in the title of this subsection to correspond with the applicable building-specific discussion.
Recommendation: Change the title of subsection 24 to, "Buildings 536 and 535".

ARMY RESPONSE: Comment will be incorporated.

23. Page 4-19, Section 4.1, Mr. Gaborek
30. Group C Disposal Area
Comment: You fail to include the fact that a UXO survey was also conducted in the Group C disposal area.
Recommendation: Include the fact that a UXO survey of the Group C disposal was conducted. Additionally, include the results of that survey.

ARMY RESPONSE: Comment will be incorporated.

24. Page 4-20, Section 4.1, Mr. Gaborek
Burning/Demolition Areas
Comment: Replace the last sentence of this subsection, prior to your introduction to subsection 31 with the statement, "The Old Burning Ground/Demolition Landfill and the Old Demolition Area ceased operation in 1955."
Recommendation: Including the exact date of the closure of the old OB/OD areas puts the actual use of this area in proper perspective.

ARMY RESPONSE: Comment will be incorporated.

25. Pages 4-20, Section 4.1, Mr. Gaborek
31 OB/OD Areas
Comment: The investigation within the most recent OB/OD areas is being conducted under the RCRA Closure Plan program not the base-wide RI/FS.
Recommendation: Revise the OB/OD section to include details and dates of the ongoing RCRA Closure Plan effort.

ARMY RESPONSE: Comment will be incorporated.

26. Page 4-21, Section 4.1, Mr. Gaborek
32-33 Old OB/OD Areas

Comment: The old OB/OD areas were investigated in the ongoing RI/FS effort in addition to the investigation conducted in 1981. You fail to state the fact that samples were taken in these areas in addition to UXO survey efforts.

Recommendation: Include details of the results of the ongoing RI/FS effort in the old OB/OD areas. Specifically include results of the sampling and the UXO survey effort.

ARMY RESPONSE: Comment will be incorporated.

27. Page 4-22, Section 4.2, Mr. Gaborek
New AREES

Comment: The single statement in this section states that, "These are discussed in Section 4.1". Clarify this statement. Section 4.1 addresses previously identified AREES not new ones.

Recommendation: The single statement in this section is totally unacceptable. This section needs to address this specific issue if your efforts uncovered any new AREES. Revise this section and provide sufficient discussion of the issue.

ARMY RESPONSE: Comment will be incorporated.

28. Page 4-23, Section 4.3, Mr. Gaborek
Adjacent/Surrounding Properties

Comment: Paragraph 1 of this section fails to include the fact that the town of Fort Wingate located to the east of the current FWDA operates a wastewater treatment plant. This plant discharges to the South Fork of the Puerco River which flows along the northern boundary of the fort.

In Lines 2 and 10, Paragraph 2, of the referenced section you identify the Puerco River. Do you mean the South Fork of this river?

Recommendation: Revise the referenced paragraph in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

29. Page 4-23, Section 4.4, Mr. Gaborek
Non-CERCLA Concerns

Comment: Replace the word, "instruments", appearing in Line 5, Paragraph 1, of the referenced section with the word, "equipment".

Recommendation: Revise Paragraph 1 in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

30. Page 4-24, Section 4.4, Mr. Boldt
Non-CERCLA Concerns, Listing of Buildings Pages 4-24 through
4-26, inclusive

Comment: This listing is an unnecessary duplication of information presented in Table 4.4-1. It would be useful to group the long, laundry list of buildings and areas provided in this section into specific areas of FWDA. For example, group all buildings applicable to the Administration Area under the subsection entitled "Administration Area". Other main subsection titles, include but are not limited to: "Work Shop Areas"; "Igloo and Magazine Areas"; and "Demolition and Burning Ground Areas".

Recommendation: This listing should be deleted, and buildings in Table 4.4-1 should be grouped by parcel number. Break up the laundry list of "qualified" parcels contained on Pages 4-24 through 4-26, inclusive, into site-specific property areas. This type of break out would make your presentation more "user-friendly" and clear.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because both tables are relevant to the investigation and will facilitate referencing.

31. Page 4-26, Section 4.4, Mr. Gaborek

Non-CERCLA Concerns, 79. Demolition Kickout Area

Comment: The paragraph which occurs before the discussion of site 80 is a totally inaccurate representation of the facts. The kickout area is part of the ongoing RCRA Closure Plan area. UXO survey data is available and 3 separate UXO destruction actions have occurred in this area. You fail to discuss this fact.

Recommendation: You continually fail to discuss the fact that the Army has taken proactive steps to minimize the UXO risk within the OB/OD area. In excess of 24,000 items have been stockpiled and destroyed. In excess of 450 blow in place actions have occurred. Screening actions for explosive wastes has also been completed.

You must ensure that the results and conclusions of the RCRA Closure activities within the OB/OD area are included in this CERFA Report.

ARMY RESPONSE: Comment will be included.

32. Page 4-26, Section 4.4, Mr. Gaborek
Scattered Utility Buildings

Comment: Presumably you are referring to the very small concrete structures used to temporarily store ammunition pallets. In any event, these "buildings" need to be clarified.

Recommendation: Revise your discussion of the scattered utility buildings to specifically identify their former purpose and use.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because documentation has not been presented to suggest otherwise.

33. Table 4.4.1, Mr. Gaborek
Buildings with CERFA Qualifiers

Comment: It would be helpful to include, in addition, to the building number, the location of the building on FWDA, i.e., Building 1 - Administration Area. The location designation should be represented by an additional column. In addition, buildings should be grouped by parcel. Clarify your designation of "PCB Storage (possible) - P(P)". The Army spent a considerable sum of money to have ERM conduct a facility-wide PCB evaluation. At this point in time, we should know the exact status of all buildings with respect to PCB contamination.

Recommendation: Revise Table 4.4.1 to address the concerns presented in the provided comment.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because the format is a programmatic format which is common to all CERFA documents, and should remain as such to maintain consistency.

34. Page 5-1, Sections 5.0 - 5.3, inclusive, Mr. Gaborek
General Comment

Comment: The total lack of text in Section 5.0 is not acceptable. It is impossible to follow your logic in designation of site parcelization without explicit rationale for these actions.

Recommendation: Provide a Section 5.0 to define the process by which a parcel is classified. Follow the Section 5.0 format being forwarded.

ARMY RESPONSE: Comment will be incorporated.

35. Table 5.1-1, Mr. Gaborek
Unknown Table Name

Comment: Provide a name for Table 5.1-1. Every single block designation within Table 5.1-1 requires a written response, i.e., the majority of the "Remediation Efforts" column is blank. The "Source of Evidence" for the OB/OD area and associated "kickout area" is the Interim Status RCRA Closure Plan not the 1993 RI/FS. In addition, you must address the following concerns:

ARMY RESPONSE: Comment will be incorporated.

* The Parcel Number Identification, i.e., "1D-HR/L(P) needs to be explained prior to presentation of Table 5.1-1. The text in Section 5.0 should have adequately presented this classification nomenclature.

ARMY RESPONSE: Comment will be incorporated.

* This Center considers your lack of attention to the results and conclusion of the RI/FS Report to be a serious deficiency. For example, the Sewage Treatment Plant area was evaluated in the RI and found not to be an area of concern, however, this same area is classified as a "CERFA Disqualified" parcel on Page 2 of 11, Table 5.1-1 because of releases of wastewater containing explosive compounds. Are you going to base your disqualification on speculation or your actual sampling data? Parcel qualification should be based on your RI/FS data not upon speculative, historic information. You must re-address all areas of concern evaluated in the RI/FS. Other concerns include, but are not limited to, the following:

ARMY RESPONSE: Comment noted. Comment will not be incorporated because CERFA guidelines are quite clear as to parcel determination, and the document has followed those established guidelines.

- This Center takes exception to your designation of the former ballistic launch sites. These areas were evaluated in the RI/FS and found not to be areas of environmental concern. You disqualify them due to potential hazardous and petroleum releases (Sheet 2 of 4). This is not accurate.

ARMY RESPONSE: Comment noted. Comment will not be incorporated due to the reasons stated the Army's Response above.

- This Center takes exception to your designation of the Old OB/OD areas (Sheet 2 of 4). What is the basis for the "HR" designation of these areas?

ARMY RESPONSE: Same response as above.

- You must classify the fluorspar storage area found on Sheet 3 of 4. In addition, you fail to acknowledge the buildings in the Administration Area currently under lease for Native American food distribution services. Given the category definitions for this investigation, doesn't this area qualify as a CERFA Excluded parcel? Coordinate with the RI/FS team for this information.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because Fluorspar is not a CERCLA regulated substance, or a petroleum product or a derivative of a petroleum product. Properties which are leased are not CERFA disqualified as per CERFA guidance.

- Sheet 3 of 4 needs to be revised to accurately represent the data from the RI/FS Report.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because of the reasons stated above.

* The Metcalf & Eddy Technical Plan was prepared to specifically outline procedures to be followed in initiation of the RI/FS. Your RI/FS contains the actual data. The Technical Plan is simply an plan for how to conduct the RI/FS. How then can a Technical Plan serve as the basis of parcel qualification?

ARMY RESPONSE: Comment will be incorporated.

* Igloo blocks are indicated as containing both CERFA "disqualifying" and "qualifying" circumstances. You include a LBP concern for the igloos. Why? Interiors of the igloos are not painted. They have concrete walls. At the most, the igloo blocks should be listed as POSSIBLE (P) HR - Hazardous Materials Release. Accompanying text for these areas should extensively detail the facts concerning the limited nature of possible explosive residue contamination in these areas. Most of the tested igloos did not test positive for explosives. The detected explosives were associated with floor drainage to the outside in one case.

ARMY RESPONSE: Comment noted. Comment will not be incorporated because the igloo doors are painted with possible lead based paint. CERFA guidance is quite clear as to parcel determination, the document follows CERFA guidance.

* Use of the qualifier, "chemical contamination", appearing in the column entitled, "Basis", needs to be clarified.
Recommendation: Revise Table 5.1-1 in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.

36. Figures 5.1-1, Mr. Gaborek
CERFA Category and Designation Map

Comment: All maps provided as Figure 5.1-1 should be peer reviewed and approved with the appropriate signature sign off provided in the QA/QC block.

Recommendation: Revise the Figure 5.1-1 maps in accordance with the provided comment.

ARMY RESPONSE: Comment will be incorporated.